



IMPROVING RAILWAY TRANSPORT IN KENYA: POLICY OPTIONS AND ACHIEVEMENTS TO DATE

**For REDSO/ESA's Strategic Objective # 623-002-01:
Increased Use of Critical Information
by USAID and Other Decision-Makers in the Region**

**Rural and Agricultural Incomes with a Sustainable Environment (RAISE)
IQC No. PCE-I-00-99-00001-00, Task Order 805:
Regional Trade Analytical Agenda
implemented by TechnoServe-Kenya and ARD**

OCTOBER 2000

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By

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FOREWORD

Railway transport is the second most-used mode of transport after roads. It has been argued that the improvement of this mode of transport in Kenya would boost the economic performance of business enterprises. This will have a direct impact on food security for the country and the subregion at large, due to reduced transit costs as a result of increased efficiency.

It is this thought that made stakeholders propose this particular study during various forums, culminating in a meeting to discuss topical areas in January 2000. The meeting identified areas that need further investigation, including this study. Following this need, USAID/REDSO offered to facilitate this study through the Regional Trade Analytical Agenda (RTAA) that is being implemented by TechnoServe-Kenya and ARD, Inc., as members of the ARD-RAISE Consortium.

This study, therefore, offers analytical insight into what the railways in Kenya should do to achieve improved performance, through a combination of restructuring, commercialization and privatization of its activities.

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I thank all those who participated in the peer review workshop held on 18 October 2000 at the Nairobi Safari Club. Their invaluable contributions enriched the quality of this report. I should not forget to thank Mr. Fredrick M. Karema, a Computer Technologist in Geography Department, University of Nairobi, for assisting in the preparation of this document.

Finally, I am responsible if this study is found wanting, despite the cooperation I received.

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TABLE OF CONTENTS

| | |
|---|-------------|
| FOREWORD | i |
| ACKNOWLEDGEMENTS | ii |
| LIST OF TABLES | v |
| ACRONYMS AND ABBREVIATIONS..... | vi |
| EXECUTIVE SUMMARY | viii |
| CHAPTER 1. INTRODUCTION | 1 |
| 1.1 OVERVIEW | 1 |
| 1.2 THE PROBLEM | 1 |
| 1.3 OBJECTIVES OF THE STUDY | 2 |
| 1.4 METHODOLOGY | 3 |
| 1.4.1 <i>Data Collection</i> | 3 |
| 1.4.2 <i>Tackling Each Objective</i> | 4 |
| 1.4.3 <i>Data Analysis and Presentation</i> | 5 |
| 1.5 ORGANIZATION OF THE STUDY REPORT | 5 |
| CHAPTER 2. TRANSPORT INFRASTRUCTURE AND FACILITIES | 7 |
| 2.1 INTRODUCTION | 7 |
| 2.1.1 <i>Road Transport</i> | 8 |
| 2.1.2 <i>Water Transport</i> | 9 |
| 2.1.3 <i>Pipeline Transport</i> | 10 |
| 2.1.4 <i>Air Transport</i> | 11 |
| 2.1.5 <i>Railway Transport</i> | 12 |
| 2.2 BACKUP TELECOMMUNICATIONS NETWORK | 14 |
| CHAPTER 3. RAILWAY TRANSPORT INDUSTRY..... | 15 |
| 3.1 INTRODUCTION | 15 |
| 3.2 RAIL PERFORMANCE..... | 15 |
| 3.3 RAIL FREIGHT INDUSTRY..... | 16 |
| 3.4 ROLLING STOCK PERFORMANCE | 19 |
| 3.5 TRANSIT SERVICES | 21 |
| CHAPTER 4. POLICY ENVIRONMENT..... | 22 |
| 4.1 INTRODUCTION | 22 |
| 4.2 RAILWAY POLICY CHANGES..... | 22 |
| 4.3 RAILWAY RESTRUCTURING | 23 |
| 4.4 POLICY OPTIONS..... | 24 |
| 4.4.1 <i>Competitive Transport Market</i> | 24 |
| 4.4.2 <i>Public Service Obligation</i> | 25 |
| 4.4.3 <i>Performance Indicators</i> | 25 |
| 4.5 MANAGEMENT OBJECTIVES AND AUTONOMY | 25 |

| | |
|--|-----------|
| CHAPTER 5. PRIVATIZATION IN RAILWAY SUBSECTOR..... | 26 |
| 5.1 INTRODUCTION | 26 |
| 5.2 KRC PROBLEMS | 26 |
| 5.3 REFORM LESSONS FROM OTHER COUNTRIES | 27 |
| 5.4 RAILWAY REFORMS IN KENYA | 27 |
| 5.5 PRIVATIZATION OPTIONS | 29 |
| 5.6 ONGOING PRIVATIZATION MEASURES | 32 |
| 5.7 CHALLENGES IN PRIVATIZATION | 35 |
| 5.8 RAILWAY SERVICES AND THE POLITICAL CLIMATE | 35 |
| 5.8.1 <i>Employment Creation</i> | 35 |
| 5.8.2 <i>Increased Private Investment</i> | 36 |
| CHAPTER 6. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS..... | 37 |
| 6.1 SUMMARY OF FINDINGS..... | 37 |
| 6.1.1 <i>Rail Performance</i> | 37 |
| 6.2 CONCLUSIONS..... | 38 |
| 6.3 RECOMMENDATIONS | 38 |
| APPENDIX A. BIBLIOGRAPHY | |
| APPENDIX B. LIST OF PEOPLE INTERVIEWED | |
| APPENDIX C. CORRELATION COEFFICIENTS | |
| APPENDIX D. MULTIPLE REGRESSION RESULTS FOR LOCOMOTIVE AVAILABILITY | |
| APPENDIX E. KRC LIST OF LOCOMOTIVES | |
| APPENDIX F. KRC PROFIT AND LOSS ACCOUNTS FOR 1995-1996 TO 1997-1998 | |
| APPENDIX G. KRC BALANCE SHEET FOR 1996-1997 | |

LIST OF TABLES

| | |
|--|----|
| TABLE 2.1. CLASSIFIED ROAD NETWORK (KM), 1993 | 8 |
| TABLE 2.2. TRAFFIC HANDLED AT THE PORT OF MOMBASA, 1995-1999 (MILLION T) | 10 |
| TABLE 2.3. COMPOSITION OF CARGO HANDLING EQUIPMENT IN MOMBASA, 1998..... | 10 |
| TABLE 2.4. TYPE OF AIRCRAFT UTILIZED IN KENYA AND APPROXIMATE SEATING CAPACITY | 12 |
| TABLE 2.5. KENYA RAILWAYS TRACK MILEAGE | 13 |
| TABLE 2.6. KRC BRIDGE DETAILS..... | 14 |
| TABLE 3.1. KRC TRAFFIC BY MAJOR COMMODITY GROUP, 1996-1997 | 16 |
| TABLE 3.2. FREIGHT HANDLED BY RAIL, 1995-1996 TO 1999-2000..... | 18 |
| TABLE 3.3. SELECTED BEST PRACTICES IN RAILWAY MANAGEMENT INDICATORS | 18 |
| TABLE 3.4. COMPARATIVE PERFORMANCE INDICATORS FOR SELECTED AFRICAN RAILWAYS | 18 |
| TABLE 3.5. KRC LOCOMOTIVE AVAILABILITY | 20 |
| TABLE 5.1. PRIVATIZATION EXPERIENCES IN SELECTED RAILWAYS | 28 |
| TABLE 5.2. SELECTED MODALITIES OF PRIVATE PARTICIPATION IN RAILWAYS IN AFRICA..... | 31 |
| TABLE 5.3. SUMMARY OF AGREEMENTS CURRENTLY IN PLACE..... | 34 |

ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| ACIS | Advance Cargo Information Services |
| AfDB | African Development Bank |
| CD | Container Depots |
| CPCS | Canadian Pacific Consulting Services |
| DRC | Democratic Republic of Congo |
| EAAC | East African Airways Corporation |
| EAC | East African Community |
| EARC | East African Railways Corporation |
| EIA | Eldoret International Airport |
| EARH | East African Railways and Harbors |
| FFK | Freight Forwarders Kenya Ltd. |
| GE | General Electric |
| GMS | General Marine Services |
| GoK | Government of Kenya |
| ICD | Inland Container Depot |
| JKIA | Jomo Kenyatta International Airport |
| KCC | Kenya Cooperative Creameries |
| KNCCI | Kenya National Chamber of Commerce and Industry |
| KNTC | Kenya National Trading Corporation |
| KPA | Kenya Ports Authority |
| KPC | Kenya Pipeline Company |
| KPCU | Kenya Planters Cooperative Union |
| KQ | Kenya Airways |
| KRC | Kenya Railways Corporation |
| KUR | Kenya-Uganda Railway |
| MIA | Moi International Airport |
| MRP | Minor Roads Program |
| NCPB | National Cereals and Produce Board |
| PABX | Private Automatic Branch Exchange |
| PSO | Public Service Obligation |
| RTAA | Regional Trade Analytical Agenda |
| RTI | Railway Training Institute |

| | |
|--------|---|
| SOE | State-Owned Enterprise |
| SPSS | Statistical Package for Social Sciences |
| t | metric tons or tonnes |
| TAZARA | Tanzania Zambia Railways Authority |
| TEU | Twenty Foot Equivalent Unit |
| TRC | Tanzania Railways Corporation |
| UK | United Kingdom |
| URC | Uganda Railways Corporation |
| USA | United States of America |
| VHF | Very High Frequency |
| WFP | World Food Program |

EXECUTIVE SUMMARY

Introduction

Railway transport is the second most popular mode of transport in Kenya, after road transport for both freight and passenger traffic. This study, therefore, was conducted to determine approaches that might improve the efficiency in railway transport while taking stock of what has been achieved in the restructuring and modernization process so far. The report documents various policy options pursued in the past and those that may be targeted in the future. In the process, the study investigated and quantified the results of restructuring, commercialization and privatization processes on the railway transport industry in Kenya. This was accomplished by using an in-depth analysis of rail freight transport in the country as well as transit traffic to and from landlocked countries such as Uganda, Rwanda and Burundi. The study was policy oriented and sought to improve the understanding of railway operations, management and its economic impact in the country.

Rail Performance

Kenya Railways Corporation (KRC) was established in 1978 under the Kenya Railways Act Cap 397 of the Laws of Kenya. It is a wholly owned government parastatal that took over the operations of the defunct East African Railways Corporation (EARC), following the demise of the then East African Community (EAC) in 1977. The Act was revised in 1986, and it details the duty of the corporation to provide coordinated and integrated rail and inland waterway transport services, port facilities in relation to inland water transport and auxiliary road transport services. The corporation currently carries a freight volume of approximately 2.5 million metric tons (t) and has the potential to increase the volume to five million t per year. In 1980, a freight level of 4.3 million t was attained, while in 1989-1990, the railway carried 3.5 million t.

High costs, unreliability and poor quality of railway transport services are stifling efforts to promote Kenya's economic development. The large financial losses experienced by KRC over the years have put a considerable strain on public finances. Restrictive regulations contribute to high costs and are a barrier to new innovations¹. Kenya's railway transport system, like the rest in Sub-Saharan Africa, is a precarious and expensive venture mainly because of the difficult terrain, low demand, and the scarcity of human and financial resources. Besides, the policies adopted to deal with these challenges have usually been ineffective. Poor performance of KRC can largely be attributed to inappropriate policies, especially reliance on "public monopoly" administrative structures, poor determination of tariffs, cross-subsidization of services and preference for national rather than regional approaches. In view of the rapidly changing transport market situation, there is need for railway sector policy reform. Such reform is likely to lead to more effective use of human and financial resources, improve financial sustainability and attract foreign investments.

1 Doyen, 1992

National Transport Policy

The study established that a comprehensive transport policy does not exist that governs operations of the different modes such as railway, road, sea and air transport. Kenya, therefore, urgently needs a transport policy to guide the operations of different modes. Such a policy should lay a firm ground for different transport modes to be integrated and to complement each other rather than always being in direct competition. It was also established that KRC does not have an insurance policy and this has negatively affected the corporation's performance due to the risk factor involved. Hence, when derailments occur, no cargo is moved and no compensation is available for lost revenue and the damage caused to infrastructure. In such events, some cargo is usually damaged and the consignees are either compensated by the enterprise or the loss is subsumed to the owner under the “owners risk” clause of carriage. This clause defrays traffic from KRC to other modes where clients are sure of compensation in case of damage to their cargo. It is also confirmed that KRC transports hazardous goods without a clear policy. There is an urgent need to have a clear policy on transit and storage safety for such goods.

Restructuring Measures

Some of the measures that were taken prior to 1995 include reorganisation, procurement of equipment and locomotive spare parts, and technical assistance to improve operations. This effort, however, did not effectively improve the corporation's performance, which continued to decline even after implementing additional measures like tariff increases and private sector contracts for locomotive maintenance. Further restructuring followed in 1996 with approval to discontinue services on unprofitable lines. The government had to underwrite the loss on such lines under a performance contract if service was to be offered as a public service obligation (PSO). It was stipulated contracting should occur where infrastructure was already in place such as maintenance of locomotives and rolling stock and privatization of all marine services on Lake Victoria. The government was to provide loan guarantees and convert existing loans (Kshs. 6.97 billion) to equity.

Most of the proposed measures involved an overwhelming demand on the exchequer, either through direct support to the railways or contingent liability in loan guarantees that the government was to provide. This could not be realized from the government and new approaches are necessary. Some options for sustainable operations include a changing management attitude so that it may lead to improvements in productivity without compromising the need for large investments and stringent budgetary controls. If this is not done, then privatization becomes the best option that could help achieve improvements in financial performance and eliminate demands on the exchequer.

Major Findings

The data collected on freight handled, net surplus/deficit and locomotive availability revealed a decline in railway performance. Many locomotives are old and need replacement. At the same time, the amount of freight handled varies seasonally in terms of variety and quantity, regardless of the large number of railways. KRC, however, has the potential to attract many more

customers if it improves operational efficiency. This can be achieved if an all-inclusive approach is employed in the marketing of its services and in the privatization process.

Locomotive availability is low, averaging about 48 percent for the main line and branch lines. This is below the international rolling stock availability average (approximately 80 percent). Locomotive reliability is also low and is coupled with a high rate of locomotive failure and low availability of wagons due to long turnaround times. On the other hand, the volume of cargo handled at Kilindini Harbor in Mombasa has been increasing since 1995. This increase in freight has had serious implications on the efficiency of railways due to low availability of locomotives; this usually leads to congestion at the port. The inability of railways to operate efficiently has allowed road transporters to capture increasing volume of cargo traffic from the port that has averaged 3.7 million t per year since 1996.

A lot of potential exists for railway transit business in Lake Victoria. For example, in July 2000, MV Uhuru (a Kenyan wagon ferry) made 11 voyages and landed more than 10,000 tons of transit cargo at the Kisumu pier. It is understood that other wagon ferries from Uganda and Tanzania are also doing a booming business. There are, however, increasing risks due to the increased value of cargo and this is compounded by the fact that KRC does not have an insurance cover or policy. This has negatively affected the corporation's rating by its now more informed clientele and is definitely affecting the volume of cargo on offer. Sometimes, accidents occur and cargo is not moved once the line is blocked. Due to the lack of insurance cover, the company is never compensated for lost revenue nor does it compensate consignors of cargo, as KRC transports it at the owner's risk. At the moment, this situation is changing and clients are insuring their cargo. Hence, wherever accidents occur, the insurance companies compensate their clients, while in turn the companies take KRC to court for negligence.

The Kenya Railways telecommunications network serves two major groups, namely the train operations and the administrative network, consisting of PABXs in major stations. This includes public telephone facilities along the route and office telephones in individual wayside stations. Field visits, however, revealed that the telecommunication equipment in most of the railway stations is old and obsolete. This problem urgently needs to be addressed as it adversely affects KRC's performance and customer confidence.

The corporation operates a meter gauge (1000 mm) system built in the late nineteenth and early twentieth centuries. This network serves the southern region of Kenya and interfaces with other transportation systems in the northwest region of the country. The network consists of a single-track main line from Mombasa to Malaba with important branch lines to Kisumu and Nanyuki and minor branch lines to Taveta, Nyahururu, Solai and Kitale. The current pattern of freight traffic heavily favors the main line route (Mombasa-Malaba). The minor branch lines such as Nairobi-Nanyuki and Gilgil-Nyahururu are idle for most of the year because they have little freight traffic. At the same time, some branch lines such as the Nakuru-Kisumu line cannot handle heavy trains because of line limitations (it is a 60-lb rail line), while traffic along this route requires heavier trains/locomotives. Work has begun to upgrade the line to 80 lb. and will be completed in the next two years.

Most of the KRC's staff is unmotivated, because of a lack of upward mobility and training opportunities. The weak pay package (compared to other public corporations) is also a contributing factor. This has translated to major losses in the last five years; hence promoting increased dependency on government support.

In conclusion, the study established that railway performance does not meet the expectations of its users nor its owners. It is inefficient, unreliable, unprofitable in most years and operates a dilapidated, obsolete rolling stock. It is not possible for KRC to raise investment funds from its current operations due to an existing backlog of financial requirements. It needs a partner with the required financial resources and the technical know-how to back up its operations. The growing traffic through the port of Mombasa is constraining railway capability, with the result that it has lost its complementary role to other transport modes. At the moment, railway is engaged in too many activities that are not core to its prime objectives. This is adversely affecting efficiency. These conclusions form the basis of our recommendations.

Recommendations

The ongoing restructuring and privatization of Kenya Railways should be continued. The process should, however, include the private sector in their capacity as major users of the railway infrastructure and facilities. It would be appropriate if major users come together to form an advisory committee on the process. Such a forum would also enable them to understand how they stand to benefit further by investing in railway transport facilities. In turn, this advisory committee would indicate to the railway management and the government the areas of concern and propose solutions. For the government to tender the activities that are to be privatized, it would refer to the recommendations coming from the private sector advisory committee.

The current ownership of the permanent way and the telecommunications system should be rationalized by establishing specific entities for their management. It is noted that an authority to manage KRC's infrastructures is in the plan, but this may overshadow the need for a well-managed track, which is the lifeline of all railway business. It is therefore proposed that there should be an independent company to manage the permanent way and to charge trackage fees to train operators. At the same time, the management of the telecommunications system needs to be changed because telecommunications is an expensive system, and its management has been a big drain on KRC's revenue. It is appreciated that the network is there, though dilapidated and obsolete in most sections. It is recommended that KRC should contract this system to a telecommunications operator who would upgrade it and offer services to KRC at a rebated cost. The operator should be free to serve the general public as well, and pay operational dividends to the railways for their initial investment. This would definitely generate more income for the railways, while enhancing the reliability of the telecommunications network.

KRC is a business entity and its activities should be determined on the basis of profits. Hence, the government should compensate railway companies for services rendered as PSOs, just the way it deals with other private sector transporters. On the other hand, the railways should reimburse the government expenses incurred on guarantees so that a business relationship is established. This will alleviate a situation where the government can direct railway companies on issues of employment and tariff revisions. It is recommended that KRC operate as a business

venture and avoid bureaucracy and/or appendage to the public service, which has in the past led to huge losses through improper management strategies. It should concentrate on its core function as a transport company and not a public employer.

The Government of Kenya (GoK) should have a transport policy that stipulates adequate regulatory aspects among the modes so that railway is not disadvantaged, as has been the case in the past when KRC has faced stiff competition from road transporters. This should promote cooperation among the modes rather than competition *per se* and railways and roads will collaborate in the transport business and save other infrastructures, like roads.

KRC has been operating a diverse locomotive fleet and this has contributed to maintenance problems. It is necessary for the company to rationalize its locomotive fleet and limit the sources so that economies of scale can be realized in maintenance. This aspect should apply to future railway entities if the economic benefit from the railway sector is to be real and benefit the government and the economy at large. Rationalization of the rolling stock should be coupled with rationalization of staff to ensure optimal manning levels. This will lower the number of workers now standing at 10,600 to about 8,000 or less, the majority of whom are unskilled.

Most of the railway yards are congested with old wagon stocks and locomotives and should be decongested to create space for increased traffic as improvements are made in railway operations. It is necessary to establish specific areas as railway museums where the old stocks of locomotives and wagons can be stored and used as tourist attraction centers. The active stocks should be adequately covered through an insurance policy against accidents and fire. The same cover should be extended to customer cargo.

Lake Victoria provides an important link to the countries of the Great Lakes region and past traffic trends show increasing amounts of cargo. However, for KRC to reap the benefits of this surge in cargo across the lake, there is need to increase its wagon fleet and make plans for the replacement of MV Uhuru, now 36 years old.

The privatization of KRC should begin with concessioning, because the corporation needs a strategic partner with adequate capital and know-how to turn it around. Before such a strategic partner is found, dialogue with stakeholders is required in order to build a consensus with railway users on the privatization strategy. After concessioning, there should be careful monitoring of the concession to ensure that the strategic partner performs according to the contract.

Finally, the best option is to seek one concessionaire for both KRC and the Uganda Railway Corporation (URC) to economize on long distance haulage for the railway companies. Presently, block trains move cargo efficiently in about five days between Mombasa and Kampala, but with a joint concessionaire, such trains could deliver cargo to Kampala in 24 to 36 hours. This would encourage many customers to use railway services.

CHAPTER 1 INTRODUCTION

1.1 Overview

Railway transport is the second most popular mode of transport in Kenya after road transport for both freight and passenger traffic. This study was conducted to determine approaches that might improve the efficiency of this mode of transport, while taking stock of what has been achieved in the restructuring and modernization process so far. This report documents various policy options pursued in the past and those that may be targeted in the future. In the process, the study investigates and quantifies the results of restructuring, commercialization and privatization process on railway transport industry in Kenya. This is done by use of an in-depth analysis of rail freight transport in the country as well as transit traffic to and from landlocked countries such as Uganda, Rwanda and Burundi. The study is policy oriented and seeks to improve the understanding of railway operations, management and its economic impact in the country. We anticipate that the results of this study will provide the basis for future policy reviews for efficient and cost effective operations of this mode of transport.

Kenya's railway line was constructed to pass through some of the richest farming areas in order to facilitate the extraction and carriage of agricultural raw materials to export markets overseas. The railway system was built to link Uganda with the outside world through the port of Mombasa and thus became known as the Uganda Railway. The present focus of intra- and inter-country functions of the railway network developed much later, when opportunities for in-country and regional trade became significant².

After independence, Kenya strove to participate in international trade by establishing industrial bases and promoting commercial farming. Transportation for national development and international trade became the focus of government due to anticipated and real increases in regional and international trade. To enhance harmony in railway carriage, the government has signed various agreements and treaties on bilateral and multilateral setups. This development has necessitated increased investments in infrastructure and other facilities for regional and international transport needs.

1.2 The Problem

At the beginning of the last century, railway was the principal means of long distance transportation, and this influenced transport investments in other modes, particularly the road network development. During the early stages of road development, the road network was meant to feed the railways network, but not to compete with it. Roads running parallel to the railway network, such as the Mombasa-Nairobi road, were considered competitive and therefore unfavorable to the profitable performance of the railway system. Until the early 1970s, railways dominated long-distance freight transport along the main transit corridors, namely Mombasa-Nairobi-Malaba and Nakuru-Kisumu.

² Irandu, 1995.

In the 1960s, road transport technology was developing fast, and in the later part of the decade heavy goods long-distance transport vehicles started appearing. Slowly some traffic started shifting from the dominant railway network to the road transport sector, especially in areas where railway was not easily accessible. Over the same period, the EARC was experiencing increasing problems within Uganda and this led to railways losing a major part of the transit market to road transporters. However, the national railway network in Kenya was still able to increase its domestic freight traffic, although competition kept on mounting. The opening of the Mombasa-Nairobi pipeline in 1979 took some liquid cargo traffic from the railway system. However, the increase in railway traffic persisted until the early 1980s when the KRC started experiencing serious problems of locomotive availability and reliability. There was stiff competition from road transport and a serious decline in freight travel in proportion to road transport began and the decline has continued virtually without interruption ever since.

The infrastructure and facility failures brought up the need for future investments to sustain transportation requirements for the railways sector. This in turn brought up the question of investment sustainability for both investors and beneficiaries. Countries once freely linked to the sea by KRC had to pay for their goods to transit through the railway network in Kenya. This transit cost is over and above the maintenance costs of their domestic infrastructure³. The transit charges are meant to supplement the normal railway systems development and infrastructure maintenance budget because of increased infrastructure and facility failures. For example, the KRC's track is now old and in poor condition, with large sections requiring reballasting. The bridges, telecommunications equipment and terminal facilities are old and need to be replaced. Low earnings and minimal capital expenditure have taken their toll on operation efficiency, with locomotive and rolling stock availability declining to less than 50 percent for locomotives and 80 percent for wagons, with a commensurate rise in turnaround time.

Donor assistance has helped KRC to become commercially oriented and to achieve tariff autonomy but has had little impact on improved performance. The need for fundamental change is evident and restructuring is being undertaken. While the recent performance of KRC has been disappointing, the experience has modified management attitudes and increased acceptance of the need for restructuring. Such reform should improve performance and enable KRC to recapture freight traffic now using the road sector.

Transit transport by railway also faces the problems related to inadequate investments in the sector, culminating in deficiencies in motive power, rolling stock, weak and poorly maintained track networks, inadequate management abilities and a bloated workforce of about 11,000 that does not match the needs of a commercialized railway system. The inability to cope with the demand for services has had the effect of reducing real earnings and adversely affecting future investments. It is these challenges that Kenya Railways has to grapple with through restructuring and privatization.

1.3 Objectives of the Study

There have been various initiatives by the government, the KRC management, user stakeholders and other policymakers to tackle the problems outlined above and some progress has been made.

³ Mwanja, 1999.

This study set out to assess the impact these initiatives had toward promoting railway efficiency in the country and region at large. The study documented policy options and achievements to date that may lead to optimal performance in railway transport in Kenya. The following are the guiding terms of reference:

1. To document the progress made in the restructuring, commercialization and the privatization of railway systems in Kenya over the last five years;
2. To quantify the levels of cargo hauled by KRC and show improvements/losses over these years;
3. Critically review the policies that govern railway transport and propose policy changes to improve the situation;
4. Assess the available capacity and its utilization efficiency;
5. Examine the existing modalities of managing the permanent way, the rolling stock, maintenance workshops and the telecommunications systems;
6. Critically examine the role of private-sector investments in railways; and
7. Draw up key policy recommendations to be pursued.

1.4 Methodology

1.4.1 Data Collection

To document the progress made in railway restructuring, commercialization and privatization in the country, an extensive search and review of the relevant literature concerning the mentioned reforms was undertaken. The published and unpublished sources provided statistical data on freight handled at the different cargo entry and exit points such as Mombasa, Malaba and Kisumu. All KRC annual reports for the period 1994-1995 to 1996-1997 were thoroughly examined. The consultant visited a number of key organizations and institutions including the KRC headquarters, the Kenya National Chamber of Commerce and Industry (KNCCI), the Kenya Transporters Association (KTA) and Kenya Ports Authority (KPA), Ministry of Roads and Public Works, and Office of the President among others. The purpose of visiting these organizations was to interview key expert respondents who provided valuable information on railway transport. Personal interviews were held with senior officials of the Ministry of Information, Transport and Communications and the KRC's senior management staff⁴.

Questionnaires were administered to ten randomly selected Kenya railway stations spread all over the country and to ten leading clients of KRC, such as Unga Limited, World Food Program (WFP), Athi River Mining, Afro Freight Forwarders Kenya Ltd. (FFK) and Pan Paper. The consultant visited the selected railway stations and firms using KRC's services to administer the questionnaires. Due to limitations in funding and time constraints, however, it became necessary to mail some questionnaires to some firms.

⁴ The list of key references is shown in Appendix A while Appendix B gives the list of people interviewed.

1.4.2 Tackling Each Objective

The steps followed in addressing each of the above objectives are detailed below.

1. To document the progress made in the restructuring, commercialization and privatization of railway systems in Kenya over the last five years, the following steps were taken:
 - detailed literature search and review was accomplished;
 - relevant published and unpublished documents from government offices were carefully analyzed; annual KRC reports were thoroughly reviewed to assess the trend towards privatizing the railway industry in Kenya; books, theses and journals in public and private libraries were consulted for historical information; and
 - interviews were conducted with key informants in the parent ministry and at KRC's headquarters.
2. To quantify the levels of cargo hauled by KRC and show improvements/losses over these years, the consultant
 - analyzed KRC's annual reports for the period 1994-1995 to 1996-1997 (The reviewed annual reports provided data on volume of freight handled and revenue raised over the said period.);
 - administered questionnaires to selected railway stations and selected major KRC clients; and
 - conducted oral interviews with KRC top management and several other senior management staff dealing with freight handling and accounts.
3. To critically review the policies that govern railway transport and propose policy changes to improve the situation, the research team
 - reviewed all available policy documents relating to the operations of railway transport in the country (e.g., Ministry of Information, Transport and Communications publications, sessional and KRC's papers, published reports and policy briefs).
4. To assess the available capacity and utilization efficiency, the researcher
 - evaluated the expected qualifications of the personnel deployed in the key areas of KRC;
 - analyzed information on the availability of locomotives and wagons and their utilization levels; and
 - administered questionnaires to KRC's leading clients in order to ascertain the capacity available for ferrying their cargo.
5. To examine the existing modalities of managing the permanent way, the rolling stock, maintenance workshops and the telecommunications systems, the consultant
 - undertook personal interviews with the Superintending Marine Engineer of Kenya Railways Marine Services in Lake Victoria, as well as the Railways Workshop Manager,

KRC Headquarters who provided information on maintenance and repair work of engines, wagons and tracks; and

- conducted interviews with the Electrical and Communications Manager of KRC to provide information on Advance Cargo Information Services (ACIS) and to generate information that would review efforts to modernize railway telecommunications systems.

6. To critically examine the role of private sector investments in railways, the consultant

- thoroughly researched literature and reviewed the role of the private sector in railways in Kenya, Cameroon, Argentina, Canada, U.K., USA, Japan and Germany among others (The information obtained from the experiences of other countries provided useful lessons for KRC's privatization.); and
- interviewed officials of the Parastatal Reform Division in the Ministry of Finance to obtain their views on the advantages and disadvantages of private-sector investments in railway transport systems.

The data and information generated from these activities was analyzed, and collated for documentation of the findings. It formed the basis upon which the consultant made policy recommendations to guide future railway transport policies in Kenya.

1.4.3 Data Analysis and Presentation

After the required data for the study was collected, collated and tabulated, a comparison was made between different sets of data to establish whether there was some correlation between different sets. This preliminary data evaluation exercise enabled the researcher to judge the relevance and quality of the data collected. This was followed by the use of Statistical Package for Social Scientists (SPSS) for data analysis to determine relationships (Appendices D and E). Finally, descriptive and inferential statistics and charts were used for data presentation.

1.5 Organization of the Study Report

The study comprises seven chapters, namely:

Chapter 1 Introduction

This chapter introduces the research problem and shows the terms of reference under which the study was undertaken. It also provides details on the methodology employed.

Chapter 2 Transport infrastructure and facilities

This chapter reviews the existing transport infrastructure and facilities in all modes of transport, namely road, rail and inland waterways, pipeline, marine and air. It gives a detailed discussion of the condition of railway infrastructure in Kenya and touches on the impact of competition between rail and other modes of transport as it effects railway performance.

Chapter 3 Railway Transport Industry

This chapter examines the structure of the railway transport industry in Kenya. It provides a brief description of the development of railway transport and analyses the freight handled by rail during the last five years. It also evaluates locomotive availability over the same period.

Chapter 4 Policy Environment

This chapter provides a critical review of the policies governing the railway transport system in Kenya. It also makes some suggestions on policy changes aimed at improving railway transport performance in the country.

Chapter 5 Privatization in the Railway Subsector

This chapter documents the progress made towards privatization of KRC in the last five years. It also critically examines the role of the private sector in railway transport development, management and operation in Kenya. The advantages and disadvantages of private sector investment in the subsector are elaborated.

Chapter 6 Findings, Conclusions and Recommendations

This chapter provides a summary of the major findings, conclusions and recommendations of the study.

CHAPTER 2

TRANSPORT INFRASTRUCTURE AND FACILITIES

2.1 Introduction

Kenya's transport system consists of a single commercial sea port at Mombasa; a single track rail network consisting of a main line and a few branch lines, a pipeline connecting the port to the capital city, Nairobi, and extending to Eldoret and Kisumu. There is also a classified road network of 63,000 km⁵. There are three international airports: Jomo Kenyatta International Airport (JKIA) in Nairobi, Moi International Airport (MIA) in Mombasa and Eldoret International Airport (EIA). The location of these airports reflects the importance of tourism to the economy. The government currently owns and operates the port, railway, airports and pipeline as public corporations while the private sector dominates road transport and general aviation. The government owns and maintains the road infrastructure.

Transport activity is concentrated along the main section of the Northern Corridor from Mombasa to Nairobi. The corridor facilitates transit transportation to other countries in East and Central Africa and is therefore Kenya's major transport artery and sea-access route for the landlocked countries such as Uganda, Rwanda, Burundi, the Eastern Democratic Republic of Congo (DRC) and Southern Sudan.

"A cheap and extensive network of communications is a key asset that any country can have"⁶. In other words, a transport system is essential for the national economy and is also an important source of foreign exchange. For example, in Kenya, transit traffic generates annual earnings of approximately US\$ 80-95 million⁷. Until 1985, transport was not a major constraint to economic growth and development because the infrastructure met new demands as illustrated by the construction of the container facilities at Mombasa and Nairobi. During that time, Kenya enjoyed a relatively high standard of infrastructure quality and lower transport costs than most countries in the region. The road transport proved to be competitive and relatively efficient to railway and started taking a large share of transit traffic to neighboring countries.

In the recent past, however, rapid deterioration of the road network due to poor maintenance has become a serious impediment to economic development. This has hampered the marketing of perishable agricultural products such as milk and vegetables in some parts of the country. The decline in rail capacity has begun to constrain the exportation of low-value bulk commodities such as soda ash, which are very sensitive to changes in transport costs. Of greater concern to policymakers, planners and other stakeholders, however, are the constraints the existing transport system is imposing on the future growth and diversification of production and exports. High transport costs have seriously hampered the competitiveness of commodities from countries transiting their exports and imports through Kenya, including the local business community.

⁵ World Bank, 1995.

⁶ Arthur Lewis, 1995.

⁷ World Bank, 1995.

2.1.1 Road Transport

The current Kenyan economy is dependent on road transport, due to the serious impediments in railway transport. Even with the ongoing restructuring of Kenya Railways, road transport will still remain the country's primary transport system due to its flexibility and adaptability to changing circumstances. As a result, a lot of importance has been attached to the development of road transport infrastructure.

The Kenyan road transport system has gone through a series of changes, from the initial lines of trails passing through a system of old tracks and dirt roads to a complex network of gravel and bitumen highways⁸. For example, as early as 1906, there was only 818 km of public dirt roads, increasing to 2334 km by 1914. By 1920, there were about 5,760 km of road while today, there are over 63,000 km of national, classified roads and over 100,000 km of unclassified roads. Among the classified network system, about 8,600 km are bitumen roads, as shown in Table 2.1⁹.

Table 2.1. Classified Road Network (KM), 1993

| Road Class | Bitumen | Gravel | Earth | Total |
|-------------------------|--------------|---------------|---------------|---------------|
| International trunk (A) | 2,667 | 783 | 241 | 3,691 |
| National trunk (B) | 1,403 | 821 | 524 | 2,748 |
| Primary (C) | 2,503 | 3,292 | 2,160 | 7,955 |
| Secondary (D) | 1,171 | 6,128 | 3,921 | 11,220 |
| Minor and Special (E) | 878 | 15,069 | 21,559 | 37,506 |
| Total Network | 8,622 | 26,092 | 28,406 | 63,120 |

Source: World Bank, 1995, pp.11.

Historically, the development of road networks was subsidiary to that of railway networks. Since restrictive measures to promote the railway system were lifted in 1959, however, a major program to upgrade the road system was started. Ever since, the expansion of road systems has been rapid and immediately after independence, the first priority was given to the upgrading of the main trunk roads. This was followed by improvement of the primary road network through selective upgrading of heavily used segments and realignment of critical sections¹⁰.

While most investment has been directed to upgrading the main road network, there is a significant expansion in the coverage of the unclassified rural road network through special crop-oriented programs (e.g., tea, sugar roads) and through the Rural Access Roads Program (RARP). The latter program was initiated in the early 1970s with the intention of constructing an extensive network of all-weather rural access roads, using labor-intensive construction methods. The roads under RARP have been maintained under the Minor Roads Program (MRP) which uses a labor-based approach to improve existing minor or rural roads. In all, about 12,000 km of rural roads have been paved and maintained under MRP¹¹.

⁸ Ogonda, 1986.

⁹ World Bank, 1995, Sharawe, 1995.

¹⁰ Irandu, 1995.

¹¹ World Bank, 1995, Sharawe, 1995.

In Kenya, roads are mainly concentrated in areas of high population and economic activity, especially the highlands, where most of the country's food and export crops are grown. However, the road condition has deteriorated considerably over the years due to inadequate maintenance and overloading of vehicles. A visual inspection of the paved road network revealed that only 12 percent of the network is in good condition, 42 percent in fair condition and 46 percent in poor or critical condition. The shift in long distance heavy freight from rail to road clearly had a major impact in the deterioration of the network along the Northern Corridor¹².

Major investment has been necessary along the Northern Corridor to raise pavement standards and to meet present traffic-level demands. Several attempts have been made to control vehicle overloading through the introduction of weighbridges without much success. The extension of the pipeline to both Kisumu and Eldoret significantly reduced traffic loading on the main road. However, this did not have a lot of impact on the Nairobi-Mombasa road because of the demand to transport heavy petroleum products by road. Kenya Railways was hence required to upgrade its oil lifting capacity from Mombasa by converting some ordinary wagons into oil tanker wagons¹³.

2.1.2 Water Transport

Apart from Lake Victoria transport at Kisumu, and other smaller lake ports such as Kendu Bay, Karungu and Homa Bay, the main water transport focus is at the Kilindini Harbor in Mombasa. In recent times, Lake Victoria transport has been hampered by water hyacinth. However, beetles have been introduced to feed on the weed and it is hoped that with time the problem will be solved. Mombasa is the chief sea port in Kenya and the deep water on the western side of Mombasa Island forms a magnificent harbor of Kilindini, reputed to be the "finest on the eastern coast of Africa" north of Durban¹⁴. The port has a well-developed infrastructure with a natural harbor, whose berths do not require constant dredging like some ports in other parts of Africa. The quays are also well developed. The 13-km approach channel has been dredged to about 13.4 m and has a tidal range of 4 m on spring tides. The port is managed by the KPA, a state-owned corporation.

The port has 16 deep-water general cargo and container berths. Oil tankers are handled at the Kipevu and Shimanzi terminals where oil jetties are located. In addition, there are privately operated bulk handling facilities for coal, clinker and cement at Mbaraki and the English Point¹⁵. The three-berth container terminal was developed in early 1980s and has an estimated annual capacity of 250,000 TEUs. This is now fully utilized and the port has a program to convert three more general cargo berths into container berths. In total, Mombasa port has a practical capacity of about 20 million t annually, including 250,000 TEUs. However, this has not been attained due to the weak economic performance of the region and the limited efficiency of operators at the port. The port handles a wide variety of inputs and exports, including bulk and containerized cargo as shown in Table 2.2.

¹² Anyango, 1997.

¹³ World Bank, 1995.

¹⁴ Hoyle, 1988, Irandu, 1995b.

¹⁵ World Bank, 1995.

Table 2.2. Traffic Handled at the Port of Mombasa, 1995-1999 (million t)

| Imports | 1995 | 1996 | 1997 | 1998 | 1999 |
|--------------|------------|------------|------------|------------|------------|
| Dry cargo | 3.3 | 3.4 | 4.9 | 4.1 | 3.5 |
| Bulk oils | 2.6 | 2.8 | 1.6 | 2.4 | 2.7 |
| Exports | | | | | |
| Dry cargo | 1.8 | 2.1 | 1.7 | 1.9 | 1.6 |
| Bulk oils | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 |
| Total | 7.9 | 8.5 | 8.4 | 8.5 | 8.0 |

Source: KPA, Annual Bulletin of Statistics, various years.

Hinterlands of the port include the agriculturally developed Kenyan highlands where coffee and tea are produced and the economic zones of Southern Uganda. The core areas of production for export and areas of population concentration are particularly important elements in the hinterlands of the port in generating traffic. To service these hinterlands effectively, the port has invested in cargo handling equipment and craft to ensure fast ship turnaround time. Availability and serviceability of the equipment is a key determinant of port efficiency (Table 2.3).

Table 2.3. Composition of Cargo Handling Equipment in Mombasa, 1998

| Type of Equipment | Number |
|------------------------------|--------|
| General Cargo Berths | |
| Portal Electric Fixed Cranes | 7 |
| Mobile Cranes | 96 |
| Floating Cranes | 1 |
| Container Terminal Berths | |
| Ship to Shore Gantry Cranes | 4 |
| Rail Mounted Gantry | 4 |
| Rubber Tired Gantry | 17 |
| Others | 17 |

Source: KPA Annual Report 1998.

However, while Kilindini Harbor has the equipment to handle present traffic, operational problems inhibit continued and sustained port efficiency. Poor performance at the port results from poor equipment availability and reliability, inadequate maintenance of infrastructure, lack of effective management systems and a politicized workforce.

The KPA also owns and operates the rail-served inland container depots (ICDs) at Nairobi (Embakasi), Kisumu and Eldoret. Containers can be consigned to these ICDs and transported by rail without customs documentation up to the depots where they are cleared¹⁶. In 1998, Nairobi ICD handled about 33,417 TEUs while the ICD at Kisumu handled 2,435 TEUs¹⁷.

2.1.3 Pipeline Transport

The pipeline is currently confined to the transportation of "white" petroleum products from Kenya Oil Refineries at Changamwe in Mombasa to the hinterland. It offers a pollution-free, reasonably safe, clean and reliably good transport method. This in effect reduces damage to the

¹⁶ ibid.

¹⁷ KPA, 1998.

road network by taking up some of the traffic from the road system. The pipeline is managed by Kenya Pipeline Company Ltd. (KPC), a wholly government-owned parastatal under the Ministry of Energy. The pipeline commenced its commercial operations in 1978, soon after construction was completed between Mombasa and Nairobi. Later extensions to Eldoret and Kisumu were built and are fully operational at the moment. There are plans to extend the pipeline from Eldoret to Kampala in Uganda through Malaba on the Kenya-Uganda border.

The Kisumu arm of the pipeline ends at the company's storage tanks and has no oil jetty to link it with the inland water way in Lake Victoria. This has hindered the operation of an oil barge from Kisumu to other international ports in the lake, e.g., Port Bell in Uganda and Mwanza in Tanzania. Despite this limitation, on average, KPC handles an annual throughput of about 1.9 million m³ of oil. Most of the sections of this pipeline are in good condition but the Mombasa-Nairobi section, being the oldest of the pipeline network, now requires rehabilitation. It is noted that due to the existence of this pipeline network, the governments of Kenya and Uganda are able to enforce volumetric controls to oil tankers because the road carriers are now able to make several trips over shorter distances. It should, however, be realized that the pipeline extensions will only eliminate some of the overloading problems, as heavy fuel and bitumen still has to be transported by road and rail from the Mombasa.

2.1.4 Air Transport

Air transport services began in Kenya soon after WWI. At the time, Wilson Airways, a private airline established in 1929, offered domestic air passenger services. The East African Airways Corporation (EAAC), a regional airline operated by the three East African countries (Kenya, Uganda and Tanzania then known as Tanganyika), later replaced Wilson Airways. As flying became popular and widespread in the country, more airstrips and airports were established. By 1933, Nairobi West Aerodrome (now Wilson Airport) was already the "busiest" airport in Africa, a position it holds today. By 1938, there were about 31 airfields in the country, rising to 52 in 1955. At present, there are about 38 civil aerodromes in Kenya, including the three international airports, namely, JKIA in Nairobi, MIA in Mombasa and EIA in Eldoret.

Today, domestic scheduled air services are provided by the Kenya Airways (KQ) which were established on 4 February 1977, following the collapse of the EAAC. The flights operated by KQ between Nairobi and Mombasa, Nairobi and Malindi as well as between Malindi and Mombasa, cater for travel requirements of residents as well as providing connections to the Kenya coast for international services. Local air charter companies (Third-Level Aviation Sector) operate scheduled, coach and chartered passenger services throughout the country and to the neighboring countries such as Sudan and Tanzania. About 30 airline companies operate services to and from JKIA.

Air transport is increasingly becoming vital to Kenya's socioeconomic development. As the country develops an export-orientated economy, especially in horticultural crops and other high-value agricultural products, aviation has become more important¹⁸. Airfreight has increased rapidly from about 20,000 t in 1978 to over 55,000 t in 2000. Of this traffic, exports account for about 70 percent of the total tonnage. International airline services have penetrated the transit

¹⁸ Irandu, 1995.

market and have contributed to the rapid growth of the industry. They operate large aircraft with bigger seating capacities, as shown in Table 2.4.

Table 2.4. Type of Aircraft Utilized in Kenya and Approximate Seating Capacity

| Type of Aircraft Utilized | Seat Capacity |
|------------------------------|---------------|
| Boeing 727 (B-727) | 134-200 |
| Boeing 737 (B-737) | 100-150 |
| Boeing 747 (B-747) | 395-500 |
| Boeing 757 (B-757) | 200 |
| Boeing 767 (B-767) | 300 |
| Air Bus Services 300 (A-300) | 300 |
| Air Bus Services 310 (A-310) | 250 |
| DC – 10 | 275-350 |
| Fokker 50 (F-50) | 54 |

Source: Irandu, 1995, pp.285.

Increased aircraft capacity has enhanced cargo space in most of the passenger aircraft and this has allowed fast transportation of high value cargo as well as horticultural products.

2.1.5 Railway Transport

Railways in Africa are fragmented and can hardly be described as a system since they run from the interior to seaports because they were mainly designed for external trade purposes. The aggregate network of African railways is estimated at 73,000-route km of which South Africa accounts for some 22,500 km.

With the exception of eastern and southern African railway systems, the national railway networks in Africa are mostly independent of each other. The networks (with exception of TAZARA, the Trans-Gabonese and the Trans-Cameroon) were built at the end of nineteenth or the beginning of the twentieth centuries. They are of different technical characteristics, gauges, couplings, brake systems and buffers. The 1.067-m gauge predominates, especially in Sub-Saharan Africa, whereas the 1.435-m gauge accounts for 76.1 percent of the total railway km in North Africa¹⁹. Upgrading existing railway lines would involve major investments in track realignment, signaling, safety systems and rolling stock.

KRC was established in 1978, after the collapse of the EARC in 1977. The railway system in the country was originally built to provide a link between the landlocked Uganda and the outside world and thus it became known as the Uganda Railway (UR). Later, as Kenya developed, with the opening up of the "white highlands", interest and control of railway operations increased and the name was changed to the Kenya-Uganda Railway (KUR). In 1948, a major development took place when the Kenya - Uganda Railway was joined with the Tanganyika Railways and Harbors to form the East African Railways and Harbors (EARH).

The railway system in Kenya comprises of a single-track main line from Mombasa to Malaba covering a distance of 1082 km. Its important branch lines are the Nakuru-Kisumu and Nairobi-Nanyuki railway lines, while the minor branch lines consist of Voi-Taveta, Gilgil-Nyahururu,

¹⁹ AfDB, 1999.

Rongai-Solai and Leseru-Kitale. These were built primarily to serve the former white highlands. KRC operates a meter gauge (1000 mm) system built in the late nineteenth and early twentieth centuries. The main branch lines and their lengths are shown in Table 2.5.

Table 2.5. Kenya Railways Track Mileage

| Line | Length (km) |
|------------------------|-------------|
| Principal Lines | |
| Mombasa – Nairobi | 530 |
| Nairobi – Malaba | 552 |
| Nakuru – Kisumu | 248 |
| Minor Lines* | |
| Voi – Taveta | 119 |
| Konza – Magadi | 150 |
| Nairobi – Nanyuki | 262 |
| Gilgil – Nyahururu | 82 |
| Eldoret – Kitale | 90 |
| Kisumu – Butere | 69 |
| Rongai – Solai | 28 |

* Some of the lines are idle for most of the year.

Source: KRC

The entire railway transport system consists of a total track network of 2,130 km. It also connects wagon ferry services at Kisumu. The main line from Mombasa to Malaba is 95 lb./m while major branch lines such as Kisumu and Nanyuki are 80 lb./m. Smaller branch lines have 50 lb./m rails.

There has been no extension of the railway network since independence. However, there are proposals to construct a new 240-km railway line from Kampi Ya Moto to Marich Pass on the Kenya-Sudan border. Other possible extensions include Sagana-Embu, Kericho-Sotik-Kisii and Butere-Bungoma.

Most of the railway system has a relatively low occurrence of bridges with the exception of the Kisumu branch line, which has numerous bridges and viaducts due to variations in terrain²⁰. The number and average length of the bridges is summarized in Table 2.6. Along the Northern Transport Corridor, the railway and road run parallel to each other. The corridor consists of a single route between Mombasa and Nakuru and thereafter bifurcates with one branch running to the Uganda border at Malaba and the other running to Kisumu²¹. At Kisumu, the rail and road routes diverge, with the road route continuing to the Ugandan border at Busia while wagons cross Lake Victoria by ferry. Overall, road transport carries about twice the volume of railway freight on the corridor. This translates to about 3.7 million t while rail moves only 1.6 million t. The KRC management is doing everything possible to recapture some of the cargo lost to road transport in the last few years.

²⁰ Canadian Pacific Consulting Services (CPCS), 1998.

²¹ World Bank, 1995.

Table 2.6. KRC Bridge Details

| Location | Bridges | | | | Ballasted Decks | | |
|------------------|------------|--------------|-------------|------------|-----------------|--------------|-------------|
| | Number | Length (m) | Avg.len (m) | Len/Km (m) | Number | Length (m) | Avg.len (m) |
| Mombasa-Nairobi | 41 | 908 | 22 | 1.7 | 41 | 908 | 22 |
| Nairobi-Nakuru | 11 | 184 | 17 | 1.0 | 10 | 173 | 17 |
| Nakuru-Malaba | 17 | 492 | 29 | 1.3 | 14 | 449 | 32 |
| Kisumu Branch | 67 | 4,468 | 67 | 21.3 | 0 | | |
| Butere Branch | 5 | 140 | 28 | 2.0 | 3 | 85 | 28 |
| Nanyuki Branch | 32 | 486 | 15 | 2.1 | 9 | 140 | 16 |
| Kitale Branch | 2 | 49 | 24 | 0.8 | 2 | 49 | 24 |
| Nyahururu Branch | 2 | 24 | 12 | 0.3 | 1 | 12 | 12 |
| Taveta Branch | 9 | 101 | 11 | 0.9 | 0 | | |
| Solai Branch | (closed) | | | | | | |
| Totals | 186 | 6,852 | 37 | 3.7 | 80 | 1,816 | 23 |

Source: CPCS Transcom Ltd., 1998, pp.35.

The railway track suffers from a number of limitations, including poor maintenance due to inadequate maintenance budgets; a narrow gauge (1000 mm), which limits the commercial speed to 40 kph; and low equipment availability, approximately 50 percent. This is primarily due to a lack of spare parts, high manning levels due to over employment and an intensive manning methodology as stipulated by the corporation's engineering manuals.

To deal with these problems, it is proposed that lines with insignificant traffic should be closed and rails uprooted, and stations as well as railway reserves sold to generate income for the railways. The affected branch lines include Gilgil-Nyahururu, Rongai-Solai and Leseru-Kitale. The proposition that a recurrent budget allocation priority should be given to railway track and maintenance schedules should be computerized and monitored closely. Finally, sleeper defects should be rectified and areas prone to accidents rehabilitated and/or reengineered.

2.2 Backup Telecommunications Network

The railways telecommunications network serves two major clientele parties, namely the train control communication system that connects station-to-station and the administrative network consisting of PABXs in major railway centers and telephones in offices and wayside stations. About 75 percent of the infrastructure is old, obsolete and overdue for replacement. Its maintenance is difficult, due to unavailability of parts and materials. The study established that the token block signaling system is obsolete and plans are under way to replace it with a computerized system. The network — most of which consists of overhead wires, especially west of Nairobi — is obsolete and non-operational. The underground cable system between Mombasa and Nairobi is still serviceable. Plans are in place to provide a modern digital radio network system for efficient operations.

CHAPTER 3 RAILWAY TRANSPORT INDUSTRY

3.1 Introduction

This chapter analyzes the freight handled by rail during the last five years. It also evaluates locomotive availability and reliability during the same period and examines rail transit services.

3.2 Rail Performance

KRC was established in 1978 under the Kenya Railways Act Cap 397 of the Laws of Kenya. It is a wholly government-owned parastatal that took over the operations of the defunct EARC, following its demise in 1977. The Act was revised in 1986, and it details the duty of the corporation as providing coordinated and integrated rail and inland waterway transport services, port facilities in relation to inland water transport and auxiliary road transport services. The corporation currently carries a freight volume of approximately 2.5 million t and has the potential to increase volumes to five million t per year. In 1980, a freight level of 4.3 million t was attained while in 1989-1990 the railway carried 3.5 million t.

As stated earlier, railway transport was a dominant mode in Kenya for many years until in the 1980s when its performance began to decline. The decline was mainly due to aging rolling stock and equipment, coupled with changes in the transport market due to liberalization. Hitherto, KRC had a legal monopoly of transporting certain goods such as sugar, salt, grains (e.g. wheat, maize) and coffee. After the liberalization of the transport market, road transport became increasingly competitive and soon captured most of the traffic from KRC. As a monopoly and relying heavily on government subsidy, there was no incentive to change. As a result, "KRC has refused to modernize, has been unable to progress. Rather, as a corporation it has over the years stagnated"²².

As a monopoly, the government had directed that all coffee and tea to Mombasa and all commodities and produce handled by National Cereals and Produce Board (NCPB), Kenya National Trading Corporation (KNTC), Bamburi Portland Cement and Kenya Cooperative Creameries (KCC) be moved by rail. Transportation was so tightly controlled and transporting such commodities by any other mode required railway authorities' approval by obtaining "a letter of no objection". After the liberalization, KRC was allowed to set its own tariff, but the government could not force customers to use its services anymore. Liberalization enabled customers to move in large numbers to road transport, which although expensive is more efficient. The government funded the corporation's capital projects through foreign assistance, yet donor assistance dried up in the early 1990s. Consequently, there was little or no money available for the corporation from the government. Faced with these problems, the total freight handled by KRC declined rapidly from a record 3.4 million tons in 1990/91 to a low figure of 1.6 million t during the 1996-1997 financial year²³. KRC's financial performance over the last five years have fallen year after year up to the 1999-2000 financial year and expenses have increased over the same period. With revenue dropping and expenses increasing, KRC's deficit level has

²² Gichira, 2000.

²³ KRC annual reports.

continued to rise. This has made operations increasingly difficult. In 1995-1996 financial year, KRC had a net deficit of Kshs. -1.013 billion, while in 1996-1997, the net deficit rose to KShs. -1.32 billion. In 1997/98 the net deficit was KShs. -1.34 billion.

Multiple Correlation Analysis of the data collected on freight handled (tonnage), and net surplus or deficit and locomotive availability, revealed an overall decline in railway performance. It was established that many locomotives are old and need replacement. The study established that despite using aging and deteriorating equipment, the performance of KRC recently has been improving. This is because KRC is using newer management techniques in the cost centers, which has led to improvements in maintenance of the rolling stock. The amount of cargo handled in the 1999-2000 financial year was 2.4 million t and is projected to reach 3 million t in 2000-2001 and 3.5 million t by 2001-2002. To achieve these targets, KRC plans to invest heavily on equipment, track, rolling stock and human resources.

3.3 Rail Freight Industry

At some of the major railway stations such as Mombasa, Nairobi, Nakuru and Kisumu, the amount of freight handled varies seasonally in terms of variety and quantity. For example, fertilizers, agricultural produce and import-based traffic are either seasonal or erratic and often leads to a sudden traffic growth that threatens to outstrip the short-term carrying capacity of the railway. Table 3.1 shows the principal commodities that furnish KRC with significant freight traffic and revenue. The transportation of these commodities is important because they are bulky and easily improve wagon occupancy rate. They are also transported over long distances and hence increase economies of scale for the railways. A large proportion of salt and salt compounds in the country are extracted from Lake Magadi, and KRC at the moment has about half (52%) of the transport market share of salt and salt compounds.

Table 3.1. KRC Traffic by Major Commodity Group, 1996-1997

| Commodity | Tons 000s | Ton-km Millions | Revenue Kshs, Mlns |
|---------------|--------------|-----------------|--------------------|
| Cement | 115 | 84 | 181 |
| Coffee | 134 | 89 | 196 |
| Containers | 388 | 211 | 664 |
| Maize | 147 | 99 | 248 |
| Grains, Other | 39 | 35 | 78 |
| Oils | 164 | 100 | 247 |
| Salt | 69 | 68 | 124 |
| Wheat | 181 | 98 | 283 |
| Other | 203 | 284 | 527 |
| Total | 1,621 | 1,068 | 2,548 |

Source: CPCS Transcom Ltd., 1998.

Paper is another commodity that is widely used throughout the country and most of the paper is railed to Nairobi and Mombasa. This is mainly because these are principal towns in the country and have high population concentrations and high demands for paper. All the major publications, such as the Daily Nation and The East African Standard, are published in Nairobi. Hence, the need for speedy delivery of large quantities of manuscript materials. The annual consumption of paper and paper products is about 140,000 t. Webuye Paper Mills produces 110,000 t for the

local and transit market to Uganda. KRC's market share of the transportation of paper is only about 19 percent of the total volume.

Cement is also in demand throughout the nation. It is used in the building and construction industry and the construction industry has been growing in recent years. Cement factories have continued to utilize railway transport facilities because cement is a heavy and bulky commodity with a low weight value ratio.

Petroleum fuels provide the major sources of energy for both domestic and industrial uses. Kenya does not at the moment have domestic sources of these fuels. However, petroleum is refined at Changamwe, Mombasa. A pipeline from Changamwe supplies most of the refined petroleum products to Nairobi, Eldoret and Kisumu. Industrial firms such as the Magadi Soda mining PLC, Muhoroni Sugar Factory, Pan African Paper Mills (Webuye) and Nzoia Sugar Factory get their diesel supplies directly from Mombasa by railway. This assured transportation market by the companies has enabled KRC to retain a market share of 30 percent during the 1999-2000.

Fluorspar, one of the leading mineral products of Kenya, is mined from Kerio Valley and is transported from Kaptagat wholly by rail to Mombasa for export. Soda Ash, the leading export mineral from Kenya, is extracted from Lake Magadi and railed to Mombasa for export. The extraction and export of Soda Ash necessitated the construction of the Konza-Magadi railway branch line. It is railed directly to Shimanzi depot in Kilindini harbor by specialized hopper wagons and in 1999/2000 about 90,000 tons was moved by KRC. This was 92% of the total extraction of the two minerals.

Sugar is another major commodity moved by rail. It is mainly obtained from the western Kenya, the sugar belt. The sugar belt comprises of Mumias, Nzoia, Muhoroni, Chemelil, Miwani and South Nyanza (Sony) sugar factory areas. Mumias and Sony sugar factories are not directly connected to the railway network. The nearby Bungoma railway station network serves Mumias Sugar Factory. National sugar consumption is estimated at 550,000 t with local production being about 440,000 t. In the financial year 1999-2000, 81,256 t were railed.

Manure and fertilizer traffic is very important to the country's economy, due to the dominance of agriculture. Most of the fertilizer used in the country is imported via Mombasa and is brought in just before the planting season begins. This means that fertilizer has to be delivered to the farmers before the rains start. Railway capacity comes in handy for massive consignments of fertilizer. Nairobi, Nakuru, Eldoret, Thika, Kitale, Kipkelion and Sagana are the leading recipients of fertilizers²⁴.

Freight tonnage hauled by KRC stood at 1.98 million t in 1995-1996, declining to 1.62 million t in 1996-1997. About 1.69 million t were handled in 1997-1998, indicating a small improvement over the previous year (Table 3.2). If the current trend continues, then railways may be expected to increase cargo haulage in the years ahead and hence the need for urgent reorganization, including restructuring and privatization of certain services.

²⁴ Ongaro, 1995.

Table 3.2. Freight Handled by Rail, 1995-1996 to 1999-2000

| Performance Year | Tons ('000s) | Ton-km (mill.) |
|------------------|--------------|----------------|
| 1995/96 | 1,983 | 1,309 |
| 1996/97 | 1,621 | 1,068 |
| 1997/98 | 1,688 | 1,111 |
| 1998/99 | 2,202 | 1,492 |
| 1999/2000 | 2,357 | 1,556 |

Source: KRC Annual Reports

Tables 3.3 and 3.4 provide a comparison of the performance of KRC with railways in other parts of the world. It is clear from the tables that KRC still operates below the competitive edge when compared with other railways.

Table 3.3. Selected Best Practices in Railway Management Indicators

| Indicator | Best Practice | Desirable | KRC | |
|--------------------------------------|---------------|-----------|--------------------|--------------------|
| Freight Revenue/ton-Km (US \$) | 0.0190 | 0.030 | 0.029 ^a | 0.028 ^b |
| Average train speed (Km/h) | - | 60-90 | 40 | 40 |
| No. of Tons per train | 604 | - | 769 | 579 |
| Ton-Km/Employee ('000s) | 11,000 | > 750 | 82.7 | 72.4 |
| Train-Km/Employee | 4,434 | - | 429.7 | 373.5 |
| Availability of Locomotives(%) | - | > 80 | 48 | 48 |
| Wagon availability (%) | - | > 90 | 64 | 67 |
| Costs covered with total revenue (%) | - | > 100 | 97 | 72 |

^a 1995/96

^b 1995/96

Table 3.4. Comparative Performance Indicators for Selected African Railways

| Country/Railway | Data Year | Route Km | Tons (Mill.) | Ton-Km (Mill.) | No. of Staff | Staff per Route-Km |
|-----------------|-----------|----------|--------------|----------------|--------------|--------------------|
| Cameroon | 1994 | 1,006 | 1.4 | 757 | 3,799 | 3.8 |
| Cote d'Ivoire | 1994 | 651 | 0.3 | 175 | 1,811 | 2.8 |
| Malawi | 1995 | 797 | 0.4 | 144 | 1,000 | 1.3 |
| South Africa | 1994 | 22,621 | 169.1 | 93,487 | 64,682 | 2.9 |
| Tanzania | 1993 | 2,600 | 1.2 | 1,263 | 11,218 | 4.3 |
| Zambia | 1994 | 1,273 | 2.5 | 853 | 7,828 | 6.1 |
| Zimbabwe | 1994 | 2,759 | 10.7 | 4,327 | 13,918 | 5.0 |
| Kenya | 1997 | 1,919 | 1.6 | 1,068 | 14,380 | 7.5 |

Source: CPCS Transcom Ltd. 1998.

From the above tables, it is clear that the KRC has to improve its performance by changing their operating policies and investing in modern infrastructure. Such a move will make it competitive relative to other railway companies in the region and enable it to capture some of the traffic that has defected to the road sector. This will increase the operating speed of the trains from the present average train speed of about 40 km/hr, which is too slow compared to other railway networks in the region.

3.4 Rolling Stock Performance

Differences in the technical capacities along the railway network have forced the relaying of long distance freight traffic to branch lines. For example, cargo from Mombasa to Kisumu is relayed. This occurs because of the desire to change locomotives and/or wagons as well as crew. Locomotives and wagons are changed so as to adjust to the carrying capacity of branch routes, which is governed by the weight of the rails, strength of bridges and the gradient. This has necessitated the use of locomotives of different capacities to match railway line strengths.

Thus, Kisumu-bound traffic from Mombasa is railed to Nairobi by one train, a second train rails the same cargo to Nakuru and finally a third train hauls the cargo to Kisumu. Obviously this constant shifting from one train to another often results in a series of delays that slows operation of the railway.

The movement pattern of freight along Kenya's railway network closely reflects the pattern of demand. The freight handling capacity of KRC depends mainly on the number of idle wagons, empty runs and the possibility of rescheduling or rerouting. The line carrying capacity can be increased by the construction of more passing loops (or lengthening them), increased number of trains or wagons and reduction of wagon turnaround time. The railway's carrying capacity depends on locomotive power, number of available railway tracks, number and types of wagons, location of marshalling yards, length of passing loops, ruling gradient, speed and signaling technology.

The scheduling of vehicular movement seeks to provide services between specified origins and destinations. The movement is provided at specified times and seeks to minimize empty runs while maximizing the use of operating vehicle stock. Hence, the "spatio-temporal" pattern of train movement in Kenya is closely associated with the demand conditions. But the allocated scheduling capacity does not always match local and temporal demand conditions²⁵.

In 1989-1990, KRC operated 219 main line, branch line and shunting locomotives, compared to 198 during the 1996-1997 period. The total number of active locomotives is 124 and locomotive availability has remained below 50 percent, with locomotive reliability being less than 5000 km. The KRC locomotive fleet is composed of old units, the most recent main line locomotive being 13 years old, and the oldest was bought in 1960 (Appendix E). This means that the condition of large proportion of the locomotives is rated as "poor" with a small proportion being "fair" and none rated as "good"²⁶. The poor condition of locomotives made KRC to hire ten main line Class 95 locomotives from South Africa for use between Nairobi and Mombasa in 1994. These locomotives ceased operations in 1998 when the agreement expired and both parties found no need to renew it.

An important attribute of the locomotives is availability, which is a measure of the quality of maintenance. Locomotive availability is expressed as the average number of locomotives in service at any one time compared to the local fleet (Table 3.5).

²⁵ Ongaro, 1995.

²⁶ Gordon, 1997.

Table 3.5. KRC Locomotive Availability

| Performance Year | Loco Availability (%) |
|------------------|-----------------------|
| 1995/96 | 48 |
| 1996/97 | 43 |
| 1997/98 | 43 |
| 1998/99 | 55 |
| 1999/2000 | 60 |

Source: KRC Annual Reports, Various Years

The age of the KRC locomotives has adversely affected their reliability. Locomotive reliability is measured in terms of both the number of failures per 10,000 km as well as the actual number of km traveled before a failure.

It is apparent from Table 3.6 that the number of km per failure increased for the main line category from 2,895 km in 1995-1996 to 3,011 km in 1996-1997, but decreased to 2,475 km in 1997-1998. Similarly, for the shunting category, there was an increase in the number of km per failure from 1,815 km in 1995-1996 to 3,991 km in 1996-1997 before falling slightly again to 3,965 in 1997-1998. The modest improvement in reliability is attributed to KRC's capacity to manufacture spare parts for locomotives which has been enhanced, and the foundry plant which is in the process of being modernized.

KRC has experienced a number of serious accidents that led to damage and loss of cargo as well as loss of human lives. The cause of these accidents is due to the age of locomotives compounded by recurrent human errors. This study established that negligence by the maintenance crew often led to derailments, mainly because the crew did not follow the established procedures for the maintenance of the permanent way. It was also observed that wagons were detached in some stations where KRC rules do not permit detachment. We recommend that those concerned be retrained to follow the established procedures to avert further loss or damage to cargo and human lives.

Wagon availability has declined over the years from 82 percent in 1989-1990 to only 67 percent in 1996/97. Wagon turnaround time is a measure of efficiency in wagon performance and is an important variable in determining railway efficiency. Slow moving trains result in a prolonged turnaround period during which cargo accumulates. Traffic accumulation is in this case caused by the lengthy engagement of available rolling stock. Under such circumstances, traffic may accumulate to such levels as to surpass the short-term carrying capacity of the railway. Therefore, it is essential that KRC minimize cargo accumulation by moving commodities as soon as they are made available for transportation. Hence, the need for faster wagon turnaround times, which may be attained by using block trains on routes with high traffic density. Such routes are able to provide a daily supply of wagonloads sufficient for making complete train units. Major clients such as the Magadi Soda require the services of block trains so as to speed up the rate at which their products are delivered *en masse* to destination, especially to Mombasa for export. In 1990-1991, KRC wagons turnaround time was 14.8 days but this declined during the period 1991-1992 to 15.2 days and has declined further to about 22.2 days.

3.5 Transit Services

Three stations handle transit railway traffic. These are Taveta, Kisumu and Malaba. Kisumu pier and Malaba stations handle the bulk of Kenya's transit railway traffic. The Taveta station handles small consignments of foodstuffs from the shores of Lake Jipe near Taveta and the fertile Kilimanjaro region in Tanzania. Of late, transit traffic to and from Uganda has gradually been diverted from the Malaba route to Kisumu Pier. This is because traffic over Lake Victoria has been growing over time, necessitating the use of wagon ferries to serve the landlocked countries in the Great Lakes region. Therefore, a link span (a ferry terminal) was constructed and ferry services began in 1965. Today, KRC, Tanzania Railways Corporation (TRC) and URC operate wagon ferries on Lake Victoria. The vessels used include M.V Uhuru owned by KRC; Umoja owned by TRC; and M.V. Kahawa, M.V. Pamba and M.V. Kabarega owned by URC. M.V Uhuru traverses international waterways of the lake and has a carrying capacity of 1200 tons. It serves Kisumu, Musoma, Mwanza, Bukoba, Jinja and Port Bell. In July 2000 alone, M.V. Uhuru made 11 voyages, one to Musoma and ten to Port Bell and Njinja. It was observed that if the General Marine Services (GMS) at Kisumu were operated efficiently, more transit traffic could be attracted to this route.

The study established that GMS can constitute an independent industry, with a dry dock for repairs of vessels from Kenya and the other East African countries, including boats and other floating craft. Its workshop is underutilized (e.g., carpentry shop, blacksmith and painting shop) and can generate a lot of revenue for KRC if the management was aggressive enough to obtain business from the surrounding sugar processing and other industries. In 1995-1996 the Kisumu pier handled 506, 773 t of transit cargo compared to 573,034 t in 1999-2000. The slow growth in transit cargo is due to poor wagon availability and long turnaround times with excessive delays on the URC side. Some of the transit cargo from Rwanda and Burundi has been diverted to Dar es Salaam due to transit delays on this leg. Wagon ferries serving neighboring countries have played an important role in reducing the burden of loading cargo during transshipment because they carry loaded train wagons. As a result, there is no need for the construction of warehouses at the pier or the installation of high capacity loading equipment such as cranes.

CHAPTER 4 POLICY ENVIRONMENT

4.1 Introduction

This chapter provides a review of the policies governing railway transport in Kenya. Proposals are also made on policy changes aimed at improving the operations of the railway transport system.

To achieve its objectives, railways in Kenya are expected to operate commercially and profitably in the most cost-effective manner for the benefit of customers, shareholders, employees and the wider society.

4.2 Railway Policy Changes

High costs, unreliability, and poor quality of railway transport services are stifling efforts to promote Kenya's economic development. The large financial losses experienced by KRC in recent years have put a considerable strain on public finances. Restrictive regulations contribute to high costs and are a barrier to new innovations²⁷. Kenya's railway transport system, like the rest in Sub-Saharan Africa is a precarious and expensive venture. This is mainly because of the difficult terrain, low demand, and the scarcity of human and financial resources²⁸. Besides, the policies adopted to deal with these challenges have usually been ineffective. The poor performance of KRC discussed in the previous chapter can largely be attributed to inappropriate policies, especially reliance on "public monopoly" administrative structures, poor determination of tariffs, indirect subsidization of services and preference for national rather than regional approaches. In view of the rapidly changing transport market situation, there is need for policy reform. Such reform is likely to lead to more effective use of human and financial resources, improve financial sustainability and attract foreign investments.

As observed elsewhere in this report, KRC has been unable to adapt to the emergence of roads as the dominant mode of land transport. At the same time, KRC's ability to provide long distance regional traffic services was drastically reduced by the collapse of the EARC in 1977. Some of these problems have been compounded by persistent GoK intervention in all aspects of operation, personnel management, rate setting and investment decisions. For example, KRC was expected to provide its range of services at the same rate but road transport had removed high-rated traffic on which KRC's cross-subsidization was based for special tariff application. In the past, crucial decisions on employment and tariffs have been taken by GoK that led to the employment of excess unskilled labor force, acute shortage of skills and uneconomic transport rates. The government's control over foreign exchange allocation in the past severely limited KRC's ability to purchase essential and specialized spare parts on time. Consequently, this has impacted negatively on equipment availability and indeed, railway transport is now at a crossroads. It is high time KRC redefine its mission if it is to survive as a viable transport service provider in the third millennium.

²⁷ Doyen, 1992.

²⁸ *ibid.*

4.3 Railway Restructuring

In November 1988, the Union of African Railways and the World Bank organized an international conference in Brazzaville, Congo Republic. Policymakers and railway managers at the conference acknowledged that railway transport in Sub-Saharan Africa was in crisis and recommended that new efforts to revitalize the sector be focused on cost reduction, improved marketing with regard to transit services and better utilization and maintenance of assets. The conference concluded that successful transformation of railways require experienced, entrepreneurial and dynamic local management; that governments in the region must give railways operational autonomy and flexibility in tariffs; and finally that there must be effective coordination and collaboration among aid agencies involved in support of railway investments.

To achieve these objectives, the railway companies were urged to restructure to ensure renewed efficiency. Restructuring simply means the implementation of specified changes in the management strategies for enhanced efficiency. When applied to railways, it refers to the transformation of a troubled state-owned railway into an autonomous enterprise operated on commercial principles. The overall objective of restructuring is to transform the railway into a viable and competitive transport enterprise, service-oriented and market driven²⁹.

As KRC embarks on restructuring, it is important to take cognizance of the fact that this policy requires a profound change in attitude and corporate culture. Such changes are expected when dealing with institutional factors that have constrained KRC's capacity to adapt to new challenges. Such attitudes include the closed inward-looking institution attitude, resistant to outside influence and change, dominated by government influence and bureaucracy; and centrally controlled technical, commercial and parallel departments whose existence and functions are considered peripheral. Investment in problem-solving methods through new equipment rather than government-controlled management should be pursued with the overall objective being efficient on output and technology rather than cost/price/profit pegged on tariff per ton-km. KRC should depart from the conservative attitude that it provides an essential service with or without commercial interests and realize that survival will be based on the level of actual net return per service rendered.

However, it should be acknowledged that the real challenge for Kenya Railways restructuring is not just financial and technical, but first and foremost political. The momentum for restructuring usually comes from the Ministry of Finance because it realizes that KRC, as presently defined and organized, is not viable and is a threat to public finance rationalization as well as support for other socioeconomic development programs. The starting point of railway restructuring is that the highest level of political leadership must understand and support a program of change that will ensure increased net yield per service rendered. The responsibility for managing railway reform should then be assigned to person(s) of proper stature and authority to deal with the political and social aspects. How this is done varies from one company to another and is the subject of further discussion and research³⁰. In restructuring KRC, the rationale and goals should be clearly understood and clarified to all stakeholders with definite indications of the

²⁹ ibid.

³⁰ ibid.

beneficiaries. There should be clear standards of compensating those who may suffer damage due to such restructuring like employees and past owners of the system.

In the implementation of railway reform, it is important to reorganize a “hierarchy among a range of various interventions”, reflecting the fact that successful change at one level is generally predicated on certain prior conditions being met at a higher, more strategic level³¹. A World Bank survey on human resources and institutional development in Sub-Saharan Africa railways identified and outlined this hierarchy of institutional issues and the order in which they should be approached. These included defining the railway’s role; developing commitment to that role; implementing appropriate transport policy framework for achieving that role; implementing strategic reform and restructuring to ensure efficiency under the circumstances; strengthening top management through training and facilitation; improving resource availability; and finally implementing reorganization and management control.

4.4 Policy Options

Throughout Sub-Saharan Africa, the prevailing institutional and regulatory framework is defined by a set of laws, rules, regulations and other administrative arrangements dealing with the functioning of the transport market. This takes cognizance of the management rules as applied by railway companies, the relationship between government and the railway enterprises as well as the relationship between interconnected railways.

KRC, like other railways in Sub-Saharan Africa, faces inadequate “rules of the railway game” which frequently leads to management practices incompatible with “business-oriented behavior”³². For a long time, the corporation has had to seek government approval for critical management policies including the definition of services, tariffs and fares (now in the domain of railway management), staffing, appointment of senior managers, investment programs, decisions on scrapping of service and divestiture programs, as well as procurement.

Given the institutional and regulatory impediments, it is necessary for KRC to create an environment conducive to the management of railway business. This can be achieved by fostering a competitive transport market; offering PSO rail services under special compensatory arrangements with the government; defining clear and adequate performance indicators for railway operations; and defining objectives and granting real management autonomy.

4.4.1 Competitive Transport Market

The changing focus in transport policy implies a substantial change in the role of government, reducing its function as a “supplier”, but increasing its functions as a “regulator” (i.e., the enabler of competition)³³. This in effect means that KRC should operate as a commercial enterprise, to be managed along business principles and rules, in active competition with other transport modes such as road and pipeline. In a competitive transport market, customers have total freedom to choose transport modes and operators and there is no mandatory allocation of traffic. KRC

³¹ ibid.

³² Thomas, 1990.

³³ World Bank, 1996.

should freely determine the configuration of its commercial services, in reference to its own commercial interest. It should also freely set tariffs, fares and freely negotiate contracts with major clients such as Bamburi Cement, Kenya Planters Cooperative Union (KPCU) and FFK.

4.4.2 Public Service Obligation

Commercially unprofitable rail services should be abandoned unless KRC is explicitly requested by GoK to provide those services under a PSO scheme. This should involve signing a special agreement between the government and KRC for each PSO service. The PSO Agreement should define the configuration of service to be provided, tariffs or fares to be applied and PSO compensation formula³⁴. The railway management should be free to institute litigation in case of services offered and not compensated for.

4.4.3 Performance Indicators

Defining and monitoring performance indicators is a prerequisite for making KRC management fully accountable. In the past, emphasis has been put on physical indicators such as volume of freight, locomotive availability, and wagon turnaround time and productivity. These constitute valuable measures of technical management, but are not informative indicators of overall performance of a railway company. Such indicators should be supplemented by company profit, which is defined as a weight indicator of value of services minus costs (including capital costs).

4.5 Management Objectives and Autonomy

Providing clear management objectives, strengthening incentives, and holding management accountable against the objectives by granting real management autonomy to the railway operator should hinder government interference in day-to-day management³⁵. Granting real management autonomy requires reforming the legal status of the railway enterprise (e.g., revise KRC Act) with the objective of securing management autonomy, nurturing accountability and stimulating business-oriented behavior.

The study established that there does not exist a comprehensive transport policy that governs operations of the different modes such as railway, road, sea and air transport. Kenya therefore urgently needs a transport policy to guide the operations of different modes. Such a policy should lay a firm ground for different transport modes to be integrated and to complement each other rather than being always in direct competition. It was also established that KRC does not have an insurance policy and this has negatively affected the corporation's performance due to the risk factor involved. Hence, when derailments occur, no cargo is moved and no compensation is available for lost revenue. In such events, some cargo is usually damaged and the consignees are compensated by the enterprise or the loss is subsumed to the owner under the "owners risk" clause of carriage. This clause defrays traffic from KRC to other modes where clients are sure of compensation in case of damage to their cargo. It is also confirmed that KRC transports hazardous goods without a clear policy. There is an urgent need to have a clear policy on transit and storage safety for such goods.

³⁴ Thomas, 1990.

³⁵ *ibid.*

CHAPTER 5

PRIVATIZATION IN RAILWAY SUBSECTOR

5.1 Introduction

This chapter documents the progress made towards KRC restructuring, commercialization and privatization in the last five years. KRC is expected to generate adequate finances for investment and maintenance of locomotives, craft, track and telecommunications network. It is also expected to finance, equip and maintain its service centers including workshops. However, funds generated from operation of paid services have not been adequate to enable it to undertake the necessary investment and maintenance operations. The problem is worsened by overstaffing, cross subsidization from profitable freight services to sustain unprofitable passenger and branch line operations. This is coupled by poor management of rolling stock, shortage of foreign exchange, inefficient procurement practices, a poor telecommunications system, lack of a performance-linked compensation system, loss of business to the road system and payment of a road maintenance levy. Due to these impediments, the government decided to undertake various reforms to improve the services offered by the corporation.

5.2 KRC Problems

Inadequate maintenance and other operational inefficiencies are evident in the limited number of locomotives that are available for service. Such inefficiencies cause railways to drive away traffic, which in turn compounds the sector's financial difficulties. Other problems include continuing decline in KRC performance (notwithstanding the surplus profit of FY 1999-2000), the bloated workforce, escalating public debt, lack of government subsidies, and fast deterioration of KRC's asset base. If these trends are not checked immediately, the weak financial position may result in total collapse of KRC.

The weak financial base of the corporation is enhanced by the fact that the economy is experiencing high interest rates despite stringent structural reforms, poor availability and reliability of wagons and locomotives and stiff competition from road haulers. Other issues include poor a telecommunication and signaling system, an obsolete management information system and prolonged delays at border points due to bureaucratic procedures by customs and immigration departments.

It is noted that public ownership, financing and operation have failed to demonstrate any advantage in achieving national goals of poverty eradication and environmental sustainability. Fiscal drain, inadequate cost recovery methods, operational inefficiency, inadequate maintenance, and unresponsiveness to user demand problems have hampered sustainability of an efficient, reliable and profitable railway system in Kenya³⁶.

Deliberate cost recovery efforts and modalities for private sector participation in the provision of railway services are possible alternatives. This is because reliance on public ownership and provision of services is characterized by inefficiencies in resource allocation and enterprise management.

³⁶ World Bank, 1999.

5.3 Reform Lessons from Other Countries

Between 1930 and 1985, most railways in Africa enjoyed monopoly or near monopoly status compared to other competing means of transport. A number of railway lines in North Africa, Europe and Latin America were built and operated by private enterprises in the nineteenth and early twentieth centuries under a concession scheme. This arrangement later gave way to state management through formation of national railway corporations. Currently, state management of railways is predominant in Sub-Saharan Africa. However, many of the state railway corporations suffer management crises that are threatening their existence. The problems include low revenues, stiff competition from other modes of transport and deteriorating operational efficiency.

Argentina was the first country to use concessioning while restructuring railway operations. It split the existing rail network into six freight railways and restructured each one of them to give it a business focus. This led to rapid reversals in long-established declines in traffic with the tripling of freight traffic within the first five years of concessioning, significant reduction of fares and tariffs, improvement of the quality of service and cancellation of the country's annual railway debts of \$700 million³⁷. Concessioning led to elimination of losses incurred by railways in Mexico and generated revenue to the government (Table 5.1). In Brazil, concessioning of railways turned the country's \$500 million deficit from rail operations into an annual \$160 million payment to the treasury.

A number of Sub-Saharan Africa countries have also identified the need to reform their railways with a view to improving their operation and financial performance. An example is Cote d'Ivoire and Burkina Faso signed a joint concession agreement in December 1994 with the private corporation SITARAIL for the operation of the Abidjan/Ougadougou/Kaya railway. Nine state-operated railways in Latin America, four in Africa and one in Jordan were, in the last eight years, converted into 37 privately operated freight and passenger concessions. Concessioning is currently being implemented under World Bank support in thirteen countries in Sub-Saharan Africa, Asia and Eastern Europe.

5.4 Railway Reforms in Kenya

Government policy over the years has been to expand and improve the quality of transport infrastructure. However, the demand for efficient transport services has ironically continued to outstrip supply while inappropriate institutional framework and financial constraints continue to mitigate against the expansion and efficient operation of the existing facilities. This has led to unsatisfactory levels of service delivery manifested by inadequate infrastructure maintenance, resource constraints and misallocation, sustenance and technical inefficiency problems.

However, intensified marketing and securing of block trains led to fast transit time between Mombasa and Malaba stations. Other reforms include leasing of go-downs to private operators, commercialization of the Railways Training Institute (RTI) and privatization of cleaning and

³⁷ *ibid.*

Table 5.1. Privatization Experiences in Selected Railways

| Country | Market Structure | Ownership of Railways | Ownership of Infrastructure | Regulatory Framework | Reasons for Deregulation |
|---------------------------------------|--|--|--|---|---|
| Argentina | | | | | |
| Before Restructuring | Public Monopoly | | State-owned | Prices are regulated | High public subsidies, reduce FA's deficits, improve traffic levels |
| After Restructuring | Franchise system for 6 freight and 7 passenger concessions (4-5 operators) | Private Companies operating in each franchise | State network open to third parties | Free prices with max. level minimized frequencies & quality service | Improve productivity |
| New Zealand | | | | | |
| Before Restructuring | Monopoly in hands of New Zealand Rail Ltd. (NZRL) | Public agency | State-owned | Prices and service level regulated | |
| After Restructuring | Monopoly | Private (Private groups that bid highest to buy the company) | Lease | Free prices | |
| Sweden | | | | | |
| Before Restructuring | Public Monopoly | Statens Järnväg (SJ), Govt. Dept. | State owned | Controlled prices | High public subsidies and reduce SJ's deficits improve traffic levels, Improve productivity |
| After Restructuring | Monopoly as infrastructure and quasi-monopoly in services | SJ, Public company with wide autonomy and presence of small private companies. | Managed by a public agency Ben Verket (BV) | Control over tariffs has been reduced | |
| United Kingdom (UK) | | | | | |
| Before Restructuring | Public monopoly | British Rail, Public body with managerial autonomy | State-owned | Freedom of prices, except in services | High level of public subsidy, improve traffic & productivity levels |
| After Restructuring | Competition for the market, system of 25 franchises in passengers and 2 companies for freight. | Private concessions and willing stock leased to private firms | Private company (Rail track regulated) | Free prices | |
| United States of America (USA) | | | | | |
| Before Restructuring | Competitive situation | Private companies | Owned by railways | Price control & no closures of unprofitable lines | Unprofitable companies, loss of markets |
| After Restructuring | Competitive situation with concentration of big companies & many small ones. | Private companies | Owned by railways | Price freedom & closures of unprofitable lines | |

Source: Slightly modified from Campos and P. Cantos 2000, pp.180-183.

security services. The appointment of commission agents to sell the upper class passenger services and signing of a contract with General Electric (GE) of USA for the maintenance of 35 Class 93/94 locomotives to increase reliability and availability are part of the restructuring process. In the mean time, passenger services have been separated from freight services, job evaluation undertaken and staff reduced from 14,500 to 8,500; tariffs have also been liberalized. Rolling stock ownership has been liberalized and some surplus land sold to finance the retrenchment program. The launching of Magadi Railway Company as the first private railway carrier in the Kenya, and formation of an in-house consultancy company, KENRAIL Consultants, have been implemented.

Despite the achievements to date, there is need to redefine a privatization program best tailored to local constraints and needs considering that KRC is in dire need for wear-resistant rails to replace those worn out, especially between Mombasa and Nairobi. The actual requirements include about 5,000 t of BS 95N and 80N rails; 75,000 t of steel sleepers and fittings are needed; wooden sleepers and construction of new flood water openings following extensive flooding of various sections of the tract between 1992-1993 as well as in 1997-1998.

The increasing container traffic makes it necessary to acquire additional flat container wagons, reengineering of shunting locomotives, and an in-motion weighing system to improve operation and revenue collection. Other requirements identified include installation of VHF radio communication west of Nairobi, replacement of the existing terminal equipment for the operational channel, and expansion of Nairobi-Mombasa cable to avail the extra capacity required. A World Bank-funded study recommended installation of fiber-optic technology west of Nairobi. Voi station remains the only non-locked station in the Mombasa-Nairobi route. The station needs an interlocking system to enhance the safety of train operations.

KRC management had expected the retrenchment program to allow it to retain the optimum manning level, which would be in line with their business objectives. However, the corporation's financial performance is still below budget projections and hence personnel costs continue to be a major burden to the corporation. In its effort to strengthen the financial and operational base, the management approved Phase II of the retrenchment program in December 1997. This phase has not been implemented fully due to liquidity problems.

The current restructuring activities have not realized absolute results and there is need to modernize railway network operations, because service had declined due to lack of investment under state ownership. Experience from other countries indicates that the private sector has been willing and able to work with governments through privatization, concessions and management contracts to help government realize railway business objectives. It is important to note that necessary reforms to improve and modernize railways involve a series of critical decisions on ownership, regulatory supervision, contracts and future investment modalities. It is therefore GoK's onus to identify/select a preferred privatization strategy for KRC, considering the approaches that has worked elsewhere.

5.5 Privatization Options

Some of the measures taken prior to 1995 include the organization, procurement of equipment and locomotive spare parts, and technical assistance to improve operations. However, this effort

did not effectively improve the corporation's performance, which continued to decline even after implementing additional measures like tariff increases and private sector contracts for locomotive maintenance. Further restructuring followed in 1996 with approval to discontinue services on unprofitable lines. The government had to underwrite the loss on such lines under a performance contract if service was to be offered as a PSO. The contracting of the maintenance of locomotives and rolling stock, privatization of all marine services on Lake Victoria where the government was to assume responsibility for maintaining the infrastructure already in place was stipulated. The government was to provide loan guarantees and convert existing loans (Kshs. 6.97 billion) to equity.

Most of the proposed measures involved an overwhelming demand on the exchequer, either through direct support to the railways or contingent liability in loan guarantees that the government was to provide. This could not be realized on the part of the government and new approaches are necessary. Some of the options for sustainable operations include a change in management attitude that may lead to improvement in productivity without compromising the need for large investments and stringent budgetary controls. If this is not done, then privatization becomes the best option that could help achieve improvements in financial performance and eliminate demands on the exchequer.

In its 1994 "Policy Paper on Public Enterprise Reform and Privatization" the government presented its plans for a comprehensive Public Enterprise Reform Program. A Steering Committee comprising the Ministry of Transport and Communications, Ministry of Finance (Treasury) and KRC was established in 1998. The steering committee has since identified GoK's objectives in the privatization of KRC as follows:

- reduce/eliminate public sector financial support to railways,
- minimize cost/complexity of implementing ongoing management strategies,
- maintain a rational labor force, and
- promote domestic private sector participation in railway ownership and management.

To realize these objectives, the CPCS Transcom of Canada was awarded a contract to assist the committee in selecting a preferred privatization strategy and to develop a Transitional Management Plan for the process. CPCS was also to develop an implementation plan describing the activities required. In this assignment, the CPCS was expected to consider a number of privatization modalities that have been used in various countries throughout the world (Table 5.2) and identified the following:

- *Management contracts:* In this form of privatization, the contractor assumes responsibility for the operations and maintenance of certain activities within the entity being privatized. Several contracts can be issued for different operators.
- *Lease:* The lessor pays a fee for the use of fixed assets and has more autonomy than in a management contract because he fully controls the working capital deployment and staff deployment³⁸.

³⁸ Campos and Cantos, 1998.

- *Concession:* This is a broader form of lease in which the contractor also agrees to make certain fixed investments and maintains the use of the assets for a longer period. This is currently the preferred restructuring method in the rail industry in many parts of the world.

Table 5.2. Selected Modalities of Private Participation in Railways in Africa

| Modality | Countries | Year |
|---------------------|------------------------------|----------|
| Management Contract | Cameroon | Pre-1996 |
| | Democratic Republic of Congo | 1998 |
| | Togo | Pre-1996 |
| | Malawi | 1993 |
| | Tanzania | 1997 |
| | Burkina Faso | Pre-1996 |
| Lease | Cote d'Ivoire | Pre-1996 |
| | Cameroon | 1998 |
| | Gabon | 1997 |
| Concession | Malawi | 1993 |
| | Mozambique | 1998 |
| | Tunisia | 1998 |

Source: African Development Report, 1999, pp.154

- *Concession with sale of rolling stock assets:* This would involve a contractual arrangement that provides exclusive rights to operate track for a period of normally 20 years, with provision for renewal. It would involve purchase or lease of movable assets. The government would retain assets such as track and other infrastructure assets like land and buildings while the concessionaire would maintain the permanent way and other infrastructure assets. Private companies operating rail services would be treated as exceptional cases and would be expected to pay royalties to the concessionaire while providing for their own rolling stock.
- *Outright Sale of KRC's Business:* The corporation's core and non-core assets would need to be separated, then core assets such as permanent way and other fixed infrastructure transferred to a company incorporated under Companies Act. This method is considered to have far reaching effects that are irreversible and the government is left with very little control over future operations. The government has been overly cautious to implement this approach because it is unlikely to get political support and has far reaching effects of ownership.
- *Open Access:* Requires establishment of a track/infrastructure authority mandated with ownership and maintenance responsibility. The administrative capacity of the government is stretched by the complexity of regulating various operators and relationships among them. In some cases, multiple operators increase competition but discourage substantial investors if the volume of business is limited.

CPCS Transcom Ltd. argues that privatization should be based on retention of current debt by the government. If the government takes over the debt and compensates the concessionaire for the PSO operation of passenger, then that would mean that the government accepts debt

reduction of Shs. 2.0 billion and transfers movable assets free to the concessionaire who should also be the highest bidder.

We recommend concessioning of KRC. This is because the corporation needs a strategic partner with adequate capital and the technical ability to turn it round. This recommendation is based on the fact that other methods may lead to complications in management and have irreversible implications once implemented, both to the economy, the government and the present users of the railway system. However, before such a strategic partner is found, a lot of dialogue is required in order to underline such a move to all concerned. This process would ensure that the country derives maximum benefits from the privatization strategy. At the same time, it would enable the establishment of clear indicators to be used when gauging the concessionaire's performance to ensure efficiency. The concessionaire should be allowed to establish a working relationship with the Roads Transport Board to see how railways can benefit from the fuel levy fund, to which KRC is a contributor, but has yet to realize benefits from this fund. Under the present circumstances, it would appear that railways are subsidizing road transporters because the former are contributing to a fund that benefits road transporters and not rail.

The best option for Kenya would be to cooperate with the Government of Uganda and seek one concessionaire for both KRC and URC in order to establish a seamless service. At the moment, block trains move cargo efficiently in about four days between Mombasa and Kampala and with the concessioning of both KRC and URC such trains can move cargo in under 24 hours. This would encourage many customers to use railway services.

5.6 Ongoing Privatization Measures

The government is currently seeking to appoint an appropriate Transaction Manager/Investment Banker/Financial Advisor to manage the award of the operating company to quality investors, through a competitive and transparent bidding process. The Transaction Advisor will advise on aspects of the concession structure, and assist to review aspects of employment and terms and conditions of the concession according to GoK 2000, the terms of reference to the steering committee for privatization of KRC. The implementation plan entails a preparatory phase to establish the necessary legal framework, establish required institutional structures and prepare necessary documentation such as accounts, signing of legal agreements and transfer of assets. This phase is to be followed by marketing of the investment opportunity to qualified investors who are experienced in railway operations.

The government intends to privatize the operation of KRC by awarding unitary concession(s) to a private company that will be jointly owned by foreign and Kenyan investors. It is proposed that the equity shares will be 60 percent by private railway operator and 40 percent by Kenyan institutional investors such as pension funds, cooperatives and employees. The government will initially retain 40 percent of the shareholding in the concessioned company.

The concessionaire will own or lease the rolling stock and real estate that is considered necessary for operations. He will also be responsible for the maintenance of rail tracks, and other infrastructure relevant to railway operations. The infrastructure will continue to be owned by the government through the proposed Kenya Railways Asset Authority. Surplus real estate like land

presently owned by KRC will be transferred to the Kenya Railways Asset Authority books. The strategic investor will be responsible for the establishment of an investor consortium, including compliance with the local institutional shareholding requirements. Based on a proposed work program, Phase I of the work is expected to be completed in six calendar months while Phase II is expected to take between six months to one year.

So far, KRC has developed agreements in a number of areas with the private sector³⁹. The current agreements include Class 93/94 locomotive maintenance overhaul and maintenance agreements made with GE. This contract, signed in 1996 between KRC and GE of USA, was aimed at improving the reliability and availability of the Class 93/94 main line locomotives. The contract targeted overhaul of 35 locomotives by the end of the 65th month⁴⁰.

The railway line between Konza and Magadi was handed back to the Magadi Soda Company to maintain and operate. The agreement consists of six separate contracts (Table 5.3) and gives Magadi Soda Company trackage rights for use of the Konza-Mombasa section⁴¹.

Lease of ten main line locomotives from Transrade of South Africa became effective upon delivery of the locomotives in April 1994 and was due to terminate on the fourth anniversary of the delivery date (April 1998). This lease has since expired and was not renewed as it turned out to be too expensive for KRC. Kenya Railways has also entered into an agreement with WFP to provide adequate space for Class 92 locomotives and wagons as well as two shunters until the WFP has shipped one-quarter million t of non-containerized maize on the KRC system. This agreement became effective on 29 January 1998 and is still in force. However, WFP has indicated that KRC has been unable to honor the agreement due to low availability of the required rolling stock.

There is a tripartite agreement between KRC, URC and TRC for hire of each other's wagons and other operating equipment based on commercial rates of compensation. The agreement became effective in May 1996 and can be terminated with six months notice by any of the three parties. The agreement aims at promoting cooperation amongst the three railway systems and provides detailed arrangements to hire modalities of each other's rolling stock.

Catering, cleaning and security services have all been privatized. Other private sector involvement include the ongoing negotiations for freight forwarders to rehabilitate five shunting locomotives, while Caltex and Afrofreight companies have agreed to rehabilitate ten tank wagons and the overhaul of Class 87 locomotives.

³⁹ CPCS Transcom, 1999.

⁴⁰ *ibid.*

⁴¹ CPCS Transcom, 1999, Murage, 1999.

Table 5.3. Summary of Agreements Currently in Place

| Description | Effective Date | Expiry | Indicative Financials And/or obligations | Preparation for Privatization |
|--|----------------|------------------------------|--|---|
| Class 93/94 Loco. Rehabilitation – GE | Nov.'96 | Nov. 05 | Cost: approx. USD 61M | Transfer |
| Magadi Rail (wagon hire/lease, loco. Hire/lease, trackage fees transition) | Dec.'95 | Dec. 23 | Various negotiated rates - rate review allowed | Transfer |
| Mainline Loco. Lease (10) from transtrade | Apr.'94 | Apr. '98 | R3,080,000 daily lease rate to KR | N/A |
| World Food Program – spares for 92 class and shunters | Jan. '98 | Up to 250 kt carried | Guaranteed daily tonnage and transit times | N/A |
| Catering (Nairobi 3 rd /staff, Kisumu, Mombasa canteen) | Aug. 94/95 | 5 years – 3 months notice | Monthly lease arrangements | Renegotiable |
| Coach cleaning | July '96 | June '98 | Kshs.817,500 /month + VAT | Cancel |
| Security – Riley Service Ltd. | June '96 | 1 month notice | 9257 shs./guard | Cancel |
| Freight forwarders – Rehab. 5 47 class shunters | 1996 | 5 years | 2% rebate for 3 years. 5 years of dedicated wagons | Transfer (expires shortly after transfer) |
| Caltex & Afrifreight – Rehab. 10 tank wagons. | Sep. 96 | 5 years | 7.5% rebate for 3 years. 5 years of dedicated wagons | Transfer (expires shortly after transfer) |
| 87 Class locomotive maintenance overhaul (27 locos) | Nov. 97 | 3 years after effective date | Cost: approx. US\$ 45M | N/A contract was not executed |

Source: KRC

5.7 Challenges in Privatization

Privatization of an entity is basically a political decision, but once it is made a series of legal and financial implications ensue. It has been observed that the government regarded state-owned enterprises (SOEs) such as KRC as strategic for economic development of the country⁴². These enterprises were expected to change the country's economic structure and pattern, which was inherited at independence from the colonial economy. The structure was export-oriented and the indigenous private sector was weak, and hence SOEs were perceived as agencies for enhancing indigenous participation in economic development of the country. SOEs were the means that allowed the government to participate in "distributive activity in the interest of natural justice and welfare". Privatization therefore has brought forth challenges that were never foreseen and the government and the general public has yet to understand how the future will be due to anticipated losses either in employment, authority and even ownership cognizance.

5.8 Railway Services and the Political Climate

Much of the enthusiasm behind privatization is about budget discipline and assumes that privatized enterprises would be able to charge users of their services full market costs⁴³. Rail services have not been operated commercially in the past and KRC has been inefficient. Indeed it has been a drain to the exchequer, due to persistent requirements for subsidies and guarantees on unpaid loans. However, if freight and passenger services are run efficiently and profitably, there should be no cross-subsidization and KRC would have no business discussing its tariff levels with the government because tariffs should be revised progressively to reflect market conditions. Unfortunately, market relatives have been politicized, making it impossible for state enterprises to apply strict discipline and to charge full cost for their services. It is doubtful whether with privatization of KRC, the political, economic and social pressures for redistribution of its income will subside. This is normally done through politically related employment mechanisms and patronage.

5.8.1 Employment Creation

One of the most important functions of the SOEs is provision of employment to citizens. Many times, they have employed more people than are required to man the cost centers. A major concern about privatization of KRC is its effect on employment because it inherited a huge labor force from the collapsed EARC. The fear now is that privatization of KRC would lead to rationalization of staff and hence loss of employment for some people. At the moment, KRC has a labor force of about 10,678 people. There are proposals to reduce this number further by over 2000 employees and the privatization proponents argue that job creation is not a core function of KRC, and should only employ the number that will enable it to provide transport services in a competitive market. This is already sending shivers both to the government and employees. The government has, however, taken a stand to support the move on the basis that it will alleviate subsidy demand from the exchequer.

⁴² Aseto and Okelo, 1997, Atieno, 1999, Mwanja, 1999.

⁴³ Aseto and Okelo, 1997.

Privatization of KRC will affect groups of people differently. There are those who will benefit immensely by acquiring new assets and additional wealth, and there will be those who will incur heavy losses through the removal of price subsidies. This calls for dialogue on how to proceed⁴⁴. This should be a continuous exercise until all is accomplished if real gains of the process will be realized.

5.8.2 Increased Private Investment

There is a strong belief that once KRC is privatized, there will be an automatic increase in private investment in the sector leading to rapid economic development of the country. However, this may not always be the case because private investment depends on a number of other factors, chief among them being political stability of the country. Political stability is perceived by potential investors as a measure of certainty and risk reduction, which are essential prerequisites for private investment. Private investment will therefore be forthcoming only when a host of other “enabling factors” are obtained⁴⁵. Such an enabling environment includes institutional and regulatory reforms for private sector participation.

It is also argued that private investment can act as an “engine of economic growth” but this line of argument is now thought to be faulty, because evidence shows that private investment has provided little development thrust in many African countries⁴⁶. This evidence seems to be supported by the performance of KRC. Substantial resources have been pumped into the corporation since 1978 but it has not realized growth due to weak management structures. As already indicated elsewhere, freight traffic handled by KRC has declined precipitously from 3.8 million t (1978) to 1.69 million t (1997-1998). It therefore follows that railway stakeholders should strategize on the way forward rather than letting this be dominated by the government and the KRC management. The private sector players have a major stake as business generators and owners of the facilities that generate real income for this country.

⁴⁴ ibid.

⁴⁵ ibid.

⁴⁶ ibid.

CHAPTER 6

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Findings

6.1.1 Rail Performance

The data collected on freight handled, net surplus/deficit and locomotive availability revealed a decline in railway performance. Many locomotives are old and need replacement. At the same time, the amount of freight handled varies seasonally in terms of variety and quantity. This is notwithstanding the large number of railway customers such as FFK, Bamburi Cement, Magadi Soda, Kenchic, Kensalt and WFP among others. However, KRC has the potential to attract many more customers if it makes its operation more efficient. This can be achieved if an all-inclusive approach is employed in the marketing of its services and in the privatization process.

Locomotive availability is low, averaging about 48 percent for main line and branch lines, which is far below the international average of approximately 80 percent. Locomotive reliability is also low given the high rate of locomotive failure and low availability of wagons due to long turnaround times. On the other hand, the volume of cargo handled at Kilindini Harbor in Mombasa has been increasing since 1995. This increase in freight has had serious implications on the efficiency of railways. Due to low availability of locomotives, this usually leads to congestion at the port. The inability of railways to operate efficiently has allowed road transporters to capture increasing volumes of cargo traffic from the port that has averaged 3.7 million tons per year since 1996.

A lot of potential exists for a railway transit business in Lake Victoria. For example, in July 2000, MV Uhuru made 11 voyages and landed more than 10,000 t of transit cargo at the Kisumu Pier. It is understood that other wagon ferries from Uganda and Tanzania are doing a booming business too. There are, however, increasing risks due to the increased value of cargo and this is compounded by the fact that KRC does not have an insurance cover or policy. This has negatively effected the corporation's rating by its, now, more informed clientele and is definitely effecting the volume of cargo on offer. Sometimes, accidents occur and no cargo is moved once the single line is blocked. Due to lack of insurance cover, the company is never compensated for lost revenue nor does it compensate consignors of cargo as it is transported at owner's risk. At the moment, this situation is changing and clients are insuring their cargo. Hence, wherever accidents occur, the insurance companies compensate them while in turn the companies take KRC to court for negligence.

The Kenya Railways telecommunications network serves two major groups, namely the train operations and the administrative network, consisting of PABXs in major stations. This includes the public telephone facilities along the route and office telephones in individual wayside stations. However, field visits revealed that the telecommunication equipment used in most of the railway stations is old and obsolete. This problem urgently needs to be addressed as it adversely affects KRC's performance and customer confidence.

The corporation operates a meter gauge (1000 mm) system built in the late nineteenth century. This network serves the southern region of Kenya and interfaces with other transportation

systems in the northwest region of the country. The network consists of a single track main line from Mombasa to Malaba, with important branch lines to Kisumu and Nanyuki, and minor branch lines to Taveta, Nyahururu, Solai and Kitale. The current pattern of freight traffic heavily favors the main line route (Mombasa-Malaba). The minor branch lines such as Nairobi-Nanyuki and the Gilgil-Nyahururu are idle for most of the year because these routes handle very little freight traffic. Some branch lines such as the Nakuru-Kisumu line cannot handle heavy trains because of line limitations (it is a 60 lb/km rail line) while traffic along this route requires heavier trains/locomotives. Work is already going on to upgrade the line to 80 pounds and will be completed in the next two years.

Most of the KRC's staff is unmotivated due to lack of upward mobility and training opportunities. The weak pay package, as compared to other public corporations, is also a contributing factor. This has translated to major employee losses in the last five years and hence the increased dependency on government support.

6.2 Conclusions

The conclusions of this study are that railway performance does not meet the expectations of its users and neither has it met those of its owners. It is inefficient, unreliable, and unprofitable in most years and operates a dilapidated, obsolete rolling stock. It is not possible for KRC to raise investment funds from its current operations, due to an existing backlog of financial requirements and hence needs a partner with the required financial resources and the technical know-how. The growing traffic through the port of Mombasa is constraining railway capability with the result that it has lost its complementary role to other transport modes. At the moment, the railway is engaged in too many activities that are not core to its prime objectives. This is adversely affecting efficiency. These conclusions form the basis of our recommendations.

6.3 Recommendations

The ongoing restructuring and privatization of Kenya Railways should be continued. The process should, however, include the private sector in their capacity as major users of the railway infrastructure and facilities. It would be appropriate if the major users come together to form an advisory committee on the process. Such a forum would also enable them to understand how they stand to benefit further by investing in railway transport facilities. It is this advisory committee that would indicate to the railway management and the government the areas of concern and propose their solutions. For the government to tender for the activities that are to be privatized, it would then refer to the recommendations coming from the private sector advisory committee.

The current ownership of the permanent way and the telecommunications system should be rationalized by establishing specific entities for their management. It is noted that an authority to manage KRC's infrastructures is in the plan but this may overshadow the need for a well-managed track, which is the lifeline of all railway business. We therefore propose that there should be an independent company to manage the permanent way and to charge trackage fees to train operators. At the same time the management of the telecommunications system needs to be changed. This is because telecommunication is an expensive system and its management has

been a big drain to KRC's revenue. It is appreciated that the network is there although dilapidated and obsolete in most sections. It is recommended that KRC should concession this system to a telecommunication operator who would upgrade the system and offer services at a rebated cost. The operator should be free to serve the general public as well as the railway system and pay operational dividends to the railways for their initial investment. This would definitely generate more income for the railways, while enhancing the reliability of the telecommunications network.

KRC is a business entity and its activities should be determined on the basis of profits. Hence, the government should always ensure that it compensates the railway companies for services rendered as PSOs just the way it deals with other private sector transporters. On the other hand, the railways should be willing to reimburse the government expenses incurred on guarantees so that a business relationship is established. This will alleviate a situation where the government can direct the railway companies on issues of employment and tariff revisions. It is strongly recommended that KRC operate as a business venture and avoid bureaucracy and/or appendage to the public service which has in the past led to huge losses of revenue through improper management strategies. It should concentrate on its core function as a transport company and not a public employer.

GoK should have a transport policy that stipulates adequate regulatory aspects among the modes so that the railway is not disadvantaged, as has been the case in the past when KRC has faced stiff competition from road transporters. This should promote cooperation of the modes rather than competition *per se* and hence railways and roads will be able to collaborate in the transport business and save other infrastructure, like roads.

KRC has been operating a diverse locomotive fleet and this has contributed to maintenance problems. It is necessary for the company to rationalize its locomotive fleet and limit the sources so that economies of scale can be realized in maintenance. This aspect should apply to future railway entities if the economic benefit from the railway sector is to be real and with positive benefits to the government and the economy at large. Rationalization of the rolling stock should be coupled with rationalization of staff to ensure optimal manning levels. This will lower the number of workers now standing at 10,600, a majority of whom are the low grade and unskilled to about 8,000 or less.

During the study, it was found that most of the railway yards are congested with old wagon stocks and locomotives and these yards should be decongested to create space for increased traffic as improvements are made in railway operations. It is necessary to establish specific areas as railway museums where the old stocks of locomotives and wagons can be stored and used as tourism attraction centers. The active stocks should be adequately covered through an insurance policy against accidents and fire. The same cover should be extended to customer's cargo.

Lake Victoria provides an important link to the countries of the Great Lakes region and the past traffic trends show increasing amounts of cargo. However for KRC to reap the benefits of this surge in cargo across the lake, there is need to increase its wagon fleet and to make plans for the replacement of MV Uhuru, now 36 years old.

The privatization of KRC should start with concessioning first because the corporation needs a strategic partner with adequate capital and know-how to turn it around. However, before such a strategic partner is found, a lot of dialogue with stakeholders is required, in order to build a consensus with railway users on the privatization strategy. After the concessioning, there should be careful monitoring of the concession to ensure that the strategic partner performs according to the concession agreement.

Finally, the best option is to seek one concessionaire for both KRC and URC, in order to create economies of long distance haulage for the railway companies. Presently, block trains move cargo efficiently in about five days between Mombasa and Kampala but with a joint concessionaire, such trains would be able to deliver cargo to Kampala in 24 hours. This would encourage many customers to use railway services.

APPENDICES

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APPENDIX B. LIST OF PEOPLE INTERVIEWED

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| 5. F.Y. Muzungyo Acting General Manager Human Resources KRC Headquarters Nairobi | 14. Geraldine M. Maingi, Ministry of Information, Transport & Communications Nairobi |
| 6. Eng. J. Onyango M.V. Uhuru Kenya Railways Marine Kisumu | 15. Kenneth O. Atieno Ecotech Consultants Nairobi |
| 7. L. Nyalwal Regional Marketing Officer Coast Region Kenya Railways Corporation, Mombasa | 16. A.K. Masemo Kenya National Chamber of Commerce & Industry Nairobi |
| 8. P.J. Mainga Planning and Research Department KRC Headquarters Nairobi | 17. Rosemary N.N. Mburu Export Development Services Nairobi |
| 9. S. Kinuthia Deputy PS in-charge of Railway Transport Ministry of Information, Transport and Communication Nairobi | 18. Kitiabi, K.M.K., USAID/REDSO/ESA Nairobi |
| | 19. B. Maina Institute of Economic Affairs Nairobi |
| | 20. Mrs. J. Maganda Kenya International Freight and Warehousing Association Nairobi |

-
- | | | | |
|-----|--|-----|---|
| 21. | King'ori, P.K. Ministry of Information, Transport and Communication Nairobi | 29. | F.M. Sabwa Kenya International Freight and Warehousing Association Nairobi |
| 22. | Chris, M.N., Bichage, Businessman/Transporter Nairobi | 30. | Dr. N.K. Ng'eno Permanent Secretary Ministry of Lands and Settlement Nairobi |
| 23. | Fredrick M. Karema, Department of Geography University of Nairobi Nairobi | 31. | Mrs. S.Musisi-Mwanje Uganda High Commission Nairobi |
| 24. | Maingi Maundu Ministry of Finance and Planning Nairobi | 32. | G.N. Kirori Ministry of Finance and Planning Nairobi |
| 25. | Richard K. Ngunjiri KRC Headquarters Nairobi | 33. | Dr. Wilson S.K. Wasike Kenya Institute for Public Policy Research and Analysis Nairobi |
| 26. | David Ochieng Ministry of Information, Transport and Communications Nairobi | 34. | John O. Nyerere KRC Headquarters Nairobi |
| 27. | Saleem Mithwani European Union Nairobi | 35. | S. Oluoch Helu Ministry of Information Transport and Communications Nairobi. |
| 28. | Protase Echessah RTAA Project Manager TechnoServe Inc. Nairobi | 36. | Ali Fathil Bisbas Kenya National Chamber of Commerce & Industry Nairobi. |

APPENDIX C. CORRELATION COEFFICIENTS

| | VAR1 | VAR2 | VAR3 | VAR4 | VAR5 | VAR6 |
|------|--------|--------|--------|--------|--------|--------|
| VAR1 | 1.0000 | -.4529 | .1698 | .8495 | -.6483 | .8792 |
| VAR2 | -.4529 | 1.0000 | -.3042 | -.1489 | .6435 | -.3508 |
| VAR3 | -.1698 | .3042 | 1.0000 | -.1095 | -.2460 | -.0877 |
| VAR4 | .8495 | -.1489 | -.1095 | 1.0000 | -.3026 | .8290 |
| VAR5 | -.6483 | -.6435 | -.2460 | -.3026 | 1.0000 | -.6715 |
| VAR6 | -.8792 | .3508 | -.0877 | .8290 | -.6715 | 1.0000 |

(Coefficient/(Cases)/2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Key

Var1 – Loco availability (%)

Var2 – Wagon turn round (days)

Var3 – Gas, oil consumption (l/Loco-km)

Var4 – Net tonne km/person

Var5 – Net surplus/deficit (mill. Shs.)

Var6 – Freight (t)

**APPENDIX D. MULTIPLE REGRESSION RESULTS FOR LOCOMOTIVE
AVAILABILITY**

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. VAR1

Block Number 1. Method: Enter

VAR3 VAR2 VAR4 VAR5 VAR6

Variable(s) Entered on Step Number

1. VAR6
2. VAR5
3. VAR4
4. VAR3
5. VAR2

Multiple R ,99010
 R Square ,98029
 Adjusted R Square ,93103
 Standard Error ,85890

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|------------|----|----------------|-------------|
| Regression | 5 | 73,39958 | 14,67992 |
| Residual | 2 | 1,47542 | ,73771 |

F = 19,89934 Signif F = ,0485

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|------------|-------------|------------|----------|--------|-------|
| VAR3 | ,003724 | ,001367 | ,704130 | 2,724 | ,1125 |
| VAR2 | -,002458 | ,001883 | -,531304 | -1,305 | ,3218 |
| VAR4 | -,159823 | ,152666 | -,124177 | -1,047 | ,4050 |
| VAR5 | -,330338 | ,763697 | -,063652 | -,433 | ,7075 |
| VAR6 | 3,76335E-04 | 9,9819E-05 | 1,102277 | 3,770 | ,0637 |
| (Constant) | 29,229328 | 5,306798 | | 5,508 | ,0314 |

End Block Number 1 All requested variables entered.

APPENDIX E. KRC LIST OF LOCOMOTIVES

| Class | Manuf. | Year Built | In-Service | Out of Service | Stored | Current Total | Planned Total | Comments |
|---------------|----------|------------|------------|----------------|-----------|---------------|---------------|--|
| 94 | GE | 1987 | 10 | | | 10 | 10 | Currently being overhauled |
| 93 | GE | 1978 | 25 | 1 | | 26 | 26 | 1 scrapped; currently being overhauled |
| 92 | MLW | 1971 | 15 | | | 15 | 15 | |
| 87 | EE | 1960/68 | 25 | | 9 | 35 | 35 | 5 overhauled under ODA |
| 72 | GEC | 1972 | 2 | | 3 | 5 | 5 | 6 overhauled under ODA |
| 71 | EE | 1967 | 2 | | 8 | 10 | 10 | |
| 62 | Henschel | 1977 | 29 | 19 | 7 | 55 | 36 | |
| 47 | Hunslet | 1977 | 8 | | 27 | 35 | 35 | Install new Cummins engines |
| 46 | Barclay | 1967 | 19 | | 3 | 22 | 22 | |
| 35 | Barclay | 1972 | | 5 | | 5 | 0 | Scrapped |
| Totals | | | 135 | 25 | 57 | 218 | 194 | |

Average age: 25 years

**APPENDIX F. KRC PROFIT AND LOSS ACCOUNTS FOR 1995-1996 TO
1997-1998**

| Profit/Loss for the period ended: | 30th June 1996 | 30th June 1997 | Provisional results for 1997/98 |
|--|-----------------------|-----------------------|--|
| REVENUE | Kshs'000 | Kshs'000 | Kshs'000 |
| Passenger traffic | 291,923 | 297,626 | 299,098 |
| Other coaching traffic | 21,859 | 22,878 | 23,248 |
| Goods traffic | 2,972,679 | 2,647,081 | 2,721,774 |
| Livestock (goods) | 2,562 | 2,914 | 134 |
| Catering services | 106,877 | 97,156 | 79,498 |
| Water transport services | 30,311 | 77,165 | 6,944 |
| Railway Training Institute | 20,637 | 19,775 | 19,082 |
| Net miscellaneous earnings | 150,898 | 138,563 | 73,748 |
| Interest on cash balances/advances | 74,799 | 41,400 | 0 |
| Total Revenue | 3,672,545 | 3,344,558 | 3,223,526 |
| OPERATING EXPENSES | Kshs'000 | Kshs'000 | Kshs'000 |
| Maintenance of ways and works | 583,285 | 574,348 | 560,814 |
| Maintenance of locos, rolling stock | 509,407 | 323,267 | 333,062 |
| Locomotive running expenses | 1,009,229 | 1,377,406 | 1,269,524 |
| Traffic expenses | 408,074 | 359,612 | 357,134 |
| Business expenses | 355,217 | 399,315 | 404,678 |
| Catering services | 53,600 | 59,483 | 56,526 |
| Water transport services | 51,276 | 73,464 | 67,494 |
| Electrical and telecom. services | 77,844 | 73,684 | 74,174 |
| General charges | 269,068 | 264,902 | 236,634 |
| Accrued expenses | 32,619 | 38,211 | 31,756 |
| Miscellaneous expenditure | 433,300 | 651,223 | 472,596 |
| Total Operating Expenses | 3,782,919 | 4,195,916 | 3,864,392 |
| Financing expenses | 902,673 | 473,564 | 736,350 |
| Total expenditure | 4,685,592 | 4,669,480 | 4,600,742 |
| Net surplus/(deficit) | -1,013,047 | -1,324,922 | -1,377,216 |

Source: CPCS TRANSCOM, 1999.

APPENDIX G. KRC BALANCE SHEET FOR 1996-1997

| | 30th June 1996 | 30th June 1997 |
|---|------------------|-------------------|
| FIXED ASSETS | Kshs'000 | Kshs'000 |
| Tangible assets | 7,038,928 | 9,166,588 |
| Works-in-progress | 964,716 | 948,674 |
| Investments | | |
| Total Fixed Assets | 8,003,644 | 10,115,262 |
| Current Assets | Kshs'000 | Kshs'000 |
| Store stock | 2,079,348 | 1,497,455 |
| Short-term investments | 314,838 | 329,793 |
| Cash on hand | 13,099 | 30,009 |
| Debtors | 2,200,667 | 2,579,870 |
| Workshop suspense | 51,483 | 33,979 |
| Total Current Assets | 4,659,435 | 4,471,106 |
| Current Liabilities: | Kshs'000 | Kshs'000 |
| Creditors and accrued charges | 3,216,402 | 3,866,267 |
| Bank balances | 415,675 | 839,122 |
| Loan liabilities (arrears) | 874,529 | 628,435 |
| Total Current Liabilities | 4,329,418 | 5,333,824 |
| Net Current Assets (Liabilities) | 330,017 | -862,718 |
| Net Assets | 8,333,661 | 9,252,544 |
| Financed by: | | |
| Equity: | 518,000 | 518,000 |
| Government subventions and equity | 35,555 | 35,555 |
| Grants | 553,555 | 553,555 |
| Reserves: | | |
| General and revaluation reserves | 8,127,576 | 10,688,961 |
| Appropriation account | -3,280,812 | -4,605,627 |
| Total reserves | 4,846,764 | 6,083,334 |
| Long-term liabilities: | | |
| Provisions | 1,130,022 | 1,027,780 |
| Long-term loans | 1,803,320 | 1,587,875 |
| | 2,933,342 | 2,615,655 |
| | 8,333,661 | 9,252,544 |
| Debt ratio with revaluation | 35% | 28% |
| Debt ratio without revaluation | 107% | 235% |
| Current ratio | 1.08 | 0.84 |
| Acid test ratio | 0.08 | 0.07 |

Source: CPCS TRANSCOM, 1999.